



2017 Programmatic Report

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Introduction

The University of Missouri–Kansas City (UMKC) is comprised of 12 academic units, and the School of Pharmacy (SOP) is one of four health science units. The SOP contributes significantly to the university’s mission to lead in the life and health sciences, to develop a professional workforce, to collaborate on urban issues and create a vibrant learning experience.

UMKC mission statement

UMKC’s mission is to lead in life and health sciences; to deepen and expand strength in the visual and performing arts; to develop a professional workforce and collaborate in urban issues and education; and to create a vibrant learning and campus life experience.

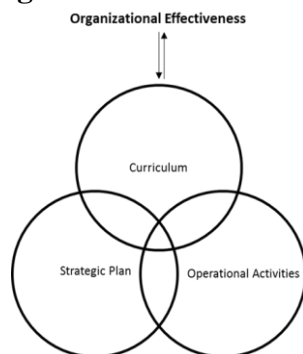
SOP mission statement

To educate, innovate, discover, engage, and serve to improve health.

The school prepares pharmacists through the *doctor of pharmacy degree program* and *advanced practice residencies* and prepares scientists through the *interdisciplinary doctor of philosophy programs* and *post-doctoral fellowships*.

The SOP programmatic assessment plan provides the framework for the continuous improvement of school operations, the curriculum and the learning experiences provided for professional and graduate students.

Programmatic Effectiveness



The plan is designed to sustain a culture of assessment. Data are collected from key constituents regarding progress towards strategic initiatives, curricular effectiveness and faculty/staff alignment of work with the core mission.

<i>Internal Key Constituents</i>	<i>External Key Constituents</i>
Current students Alumni Faculty Staff School committees School administration and leadership	Employers Community members UMKC academic leadership Professional organizations Educational accrediting bodies Partner programs and institutions

Key findings are shared with internal and external constituents through the SOP Annual Report.

The SOP Strategic Plan 2015–2020

Several steps were involved in the development and approval of the 2015–2020 SOP Strategic Plan. The first step in the process was the adoption of the UMKC Strategic Plan Goals with appropriate modifications by the SOP Leadership Team in the Spring of 2013. This was followed by the creation of new Vision and Mission Statements by faculty and staff during the Summer of 2013. Faculty, staff, professional and graduate students, alumni, preceptors and the Dean’s Advisory Council then worked to develop objectives and action steps for each Strategic Plan Goal by Fall 2014. The 2015–2020 SOP Strategic Plan (indicated below) was ratified by SOP faculty and staff on November 24, 2014.

Place Student Success at the Center

To provide the optimal learning environment for all students: outstanding academic programs and experiences, seamless student support and a vibrant campus community.

Objectives:

1. Advance student skill development through performance-based instruction and assessment such as simulated, authentic and interprofessional experiences.
2. Foster and maintain skills and expertise in methods to enhance student success through professional development opportunities for faculty, preceptors, and staff.
3. Create and assess innovative strategies to enhance student engagement in curricular and extracurricular activities across the programs’ multiple sites.
4. Gain diverse and highly-qualified students across degree programs by using data-driven recruitment and admissions strategies.

Advance Statewide Engagement

To become a model school of pharmacy that enhances education, public health and economic development in the state of Missouri.

Objectives:

1. Promote interest in the science and practice of pharmacy through student recruitment and public awareness initiatives.
2. Equip pharmacists to provide quality, progressive patient care services and to support public health initiatives.
3. Partner with other health professions to promote health and wellness initiatives.
4. Advocate for the advancement of pharmacist delivered care.
5. Foster relationships with pharmacy stakeholders to support the School and the profession.

Promote Diversity

To promote diversity and inclusiveness in all aspects of school life.

Objectives:

1. Cultivate an environment committed to inclusiveness, civility, respect, and connectivity to the School.
2. Provide a diverse learning and life experience and create culturally competent citizens.
3. Recruit and retain a diverse community of students, staff, and faculty.
4. Ensure that diversity initiatives are actively reviewed and owned by the students, faculty, and staff.

Lead in Life and Health Sciences: Excel in Research and Promote Economic Development

To attain national and international recognition for excellence in research; produce world-class scholarship and creative activity; encourage entrepreneurship, foster innovation, and increase technology transfer; and build relationships that create economic and workforce development.

Objectives:

1. Develop innovative health care services, practice-based research and translational research.
2. Increase national and international recognition in research and health care services.
3. Implement innovative professional, doctoral, inter-professional education and research initiatives.
4. Expand available opportunities for extraordinary scholarship and creative activity.
5. Increase technology transfer and support interdisciplinary research and community partnerships.

Placing Student Success at the Center

Doctor of Pharmacy/Professional Degree Program.

Accreditation. The Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education (ACPE). The customary on-site accreditation review cycle is scheduled every eight years. The professional degree program is granted accreditation status if the program complies with accreditation standards including the appropriateness of the program's mission and goals, the adequacy of resources and organization to meet the mission and goals and outcomes which indicate that the mission and goals are being met. The UMKC SOP's on-site evaluation occurred in November of 2015. The evaluation team report, in addition to the school's self-study, was used by the ACPE Board of Directors to determine accreditation action at their January 2016 meeting. ACPE granted the UMKC SOP accreditation status through June 30, 2024.

Application and Admission Process. A number of changes occurred in the admission process for professional degree seeking students. The following represents a timeline of changes.

Year	Change
2012	UMKC SOP begins participating in PharmCAS, an online application program supported by the American Association of College of Pharmacy (AACP) with the entering class of 2012. Admissions Committee begins using a "whole file" review process for screening Doctor of Pharmacy applicants whereby committee members consider all materials in the applicant's file. The Early Decision program was implemented in 2012. The Early Decision program is a binding option for applicants who have decided that a particular doctor of pharmacy program is their first choice and will enroll if accepted to that program. The first Early Decision students entered the doctor of pharmacy program in Fall of 2013. Curriculum changed from 1-5 to 2-4 program.
2013	AACP refined the definition of "applicant" to be prospective students who complete the entire application process (i.e., submit a PharmCAS application and submit a supplemental UMKC application).
2014	The application process and definitions were unchanged in 2014 and 2015 with one exception: alumni interviewers were given access to the applicant's work and volunteer experience prior to the interview.
2016	The SOP began to accept students into an Early Assurance program which makes them eligible for admission into UMKC SOP in Fall 2018. In 2016, 74 high school seniors applied. Sixty-five of the seniors completed their applications. The deadline for applying was moved to March 1 st and in the future, applications will be processed sooner by way of a rolling admission process. Students must have a minimum score of 25 on the ACT or 1200 on the SAT to apply as well as a 3.50 GPA. Twenty-four applicants were admitted into the final Early Assurance class. Once accepted into the program, students receive benefits that set them apart from other pre-health students.

Applicant Data.

University of Missouri – Kansas City, School of Pharmacy Applicant Data, 2014 – 2017				
Applicants	2014	2015	2016	2017
Number of applicants who indicated UMKC in PharmCAS	540	500	441	409
Number of completed applications	350	370	336	341
Number of incomplete applications	123	85	56	22
Number of applicants denied admission	94	88	86	84
Number of applicants that withdrew	48	51	50	62
Number of offers declined	54	59	52	33
Number of offers rescinded	10	6	7	8
Number of applicants that matriculated	143	155	141	154
Number of applicants on the alternate list	0	11	0	0

Key Findings for 2017 Applicants:

The number of applicants who indicated UMKC in PharmCAS declined in 2017 when compared to 2016. However, the number of completed applications increased by 5 in 2017 while the number of incomplete applications decreased by 34.

Early Decision Program.

University of Missouri – Kansas City, School of Pharmacy Early Assurance Program Data, 2014–2017									
Start Year	Grad Year	Kansas City		Columbia		Springfield		Total	
		#ED (% ED)	Total Applicants	#ED (% ED)	Total Applicants	#ED (% ED)	Total Applicants	#ED (% ED)	Total Applicants
2014	2018	9 (10%)	90	4 (17%)	23	5 (17%)	30	18 (13%)	143
2015	2019	29 (30%)	97	8 (26%)	31	6 (22%)	27	43 (28%)	155
2016	2020	24 (27%)	89	16 (67%)	24	9 (32%)	28	49 (35%)	141
2017	2021	31 (32%)	96	8 (30%)	27	9 (29%)	31	48 (31%)	154

Early Assurance Program.

University of Missouri – Kansas City, School of Pharmacy Early Assurance Program Data, 2017			
	Applicants	Eligible for Admission	Accepted to EA Program
	N=65	N=57	N=37
Average ACT Composite (range)	27.4 (20-33)	28.3 (25-33)	28.5 (25-33)
Average Non-weighted GPA (range)	3.77 (3.27-4.0)	3.84 (3.50-4.0)	3.82 (3.50-4.0)
% Female / % Male	60% / 40%	65% / 35%	57% / 43%
% Missouri resident	80%	84%	97%
<i>Racial/Ethnic Data</i>			
• White	68%	74%	86%
• Asian	17%	14%	3%
• Black	5%	2%	0%
• Hispanic	1.5%	0%	3%
• Nonresident	5%	2%	0%
• No answer	5%	7%	8%

Admissions Data.

University of Missouri – Kansas City, School of Pharmacy Admissions Data, 2014–2017				
Entering Pharm.D. Class Data	2014	2015	2016	2017
Accepted Applicants	208	221	200	203
Applicants Matriculated	143	155	141	154
Matriculated Applicants with Missouri Residency	81%	83%	82%	85%
Matriculated Applicants Identifying as Female	64%	56%	57%	57%
Matriculated Applicants with a Previous Baccalaureate Degree	48%	37%	28%	35%
Average Age of Matriculated Applicants	22	22	21	22
Average Cumulative Grade Point Average	3.47	3.52	3.50	3.488
Average Science and Math Grade Point Average	3.33	3.43	3.38	3.365
Average Number of Credit Hours Earned	110	98	96	100
Ethnicity				
White	72%	72%	76.5%	65.6%
Asian / Pacific Islander	16%	10%	8.5%	17%
Black or African American	6%	9%	4.2%	3.2%
American Indian or Alaskan Native	0%	0%	0.9%	0
Hispanic or Latino	1%	3%	0%	5.2%
Two or More Races	3%	3%	1.4%	2.6%
International / Foreign	1%	2%	5.0%	3.2%
Not Specified	1%	1%	3.5%	3.2%
PCAT Percentages				
Verbal	57	58	54	--
Biology	64	62	61	56
Reading Comprehension	58	51	54	53
Quantitative Ability	53	57	57	56
Chemistry	64	63	61	57
Composite	59	60	59	56

Student Learning Outcomes and Educational Goals. The essential premise of the Center for Advancement of Pharmaceutical Education (CAPE) Educational Outcomes of 2013 is that pharmacists now and in the future must be capable of 1) functioning collaboratively as members of an interprofessional team, 2) advocating for patients and demonstrating leadership, 3) providing care for diverse patient populations, 4) contributing to the health and wellness of individuals and communities, 5) educating a broad range of constituents, and 6) effectively managing a highly technical workplace. CAPE Educational Outcomes of 2013 were designed to represent all areas of pharmacy and guide the academy's efforts to educate Doctor of Pharmacy students.

Student Learning Outcome 1.

Domain 1-Foundational Knowledge. Develop, integrate and apply knowledge from the foundational sciences (pharmaceutical, social/administrative/behavioral, and clinical sciences) to evaluate the scientific literature, explain drug action, solve therapeutic problems and advance population health and patient-centered care.

The Pharmacy Curriculum Outcomes Assessment. The Pharmacy Curriculum Outcomes Assessment (PCOA) is a comprehensive test developed by the National Association of Boards of Pharmacy to measure student performance. The PCOA can assist in determining whether the UMKC SOP curriculum is meeting the desired educational outcomes. The PCOA is required for all pharmacy students nearing completion of their didactic curriculum to meet Standard 24 of the 2016 ACPE Standards. The 2016 Standards became effective July 1, 2016 therefore the SOP has decided to administer the test in the last semester of the third professional year. Students completed the PCOA in April of 2016.

Student Learning Outcome 2.

Domain 2-Essentials for Practice and Care.

- 2.1. Patient-Centered Care (Caregiver) - Provide patient-centered care as the medication expert (collect and interpret evidence, prioritize, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities).
- 2.2. Medication Use Systems Management (Manager) - Manage patient healthcare needs using human, financial, technological, and physical resources to optimize the safety and efficacy of medication use systems.
- 2.3. Health and Wellness (Promoter) - Design prevention, intervention, and educational strategies for individuals and communities to manage chronic disease and improve health and wellness.
- 2.4. Population-Based Care (Provider) - Describe how population-based care influences patient-centered care and influences the development of practice guidelines and evidence-based best practices.

Pharmacotherapy. Students complete 7 credit hours of Pharmacotherapy in both the spring and fall semesters of the third didactic year. Pharmacotherapy II and III are designed to develop the student's ability to assess patients and provide pharmaceutical care. The courses focus on developing and applying problem-solving strategies for complex illnesses commonly encountered in pharmacy practice. The student's ability to apply

knowledge is assessed by completing 4-5 cases per exam and 4-5 exams per semester. For each case, students must:

1. Identify and prioritize medical and drug related problems.
2. Establish patient care goals.
3. Assess medical condition and medication therapy and provide rationale for treatment plan.
4. Recommend pharmacologic and non-pharmacologic therapy.
5. Suggest monitoring for safe and effective drug use.

Each case section above as well as the overall case score is analyzed to determine if and where students struggle so that global course changes can be implemented when necessary. The following table provides a summary of data evaluated.

Case Section	Problems	Goals	Assessment	Plan	Monitoring	Total
Section Worth	5 points	5 points	10 points	10 points	5 points	35 points
Spring 2015	4.6 (92%)	4.6 (92%)	8.8 (88%)	8.4 (84%)	4.1 (82%)	30.6 (87%)
Fall 2015	4.5 (90%)	4.6 (92%)	8.9 (89%)	8.5 (85%)	4.3 (86%)	30.8 (88%)
Spring 2016	4.6 (91%)	4.6 (92%)	8.9 (89%)	8.5 (85%)	4.3 (87%)	30.9 (88%)
Fall 2016	4.6 (92%)	4.6 (92%)	8.8 (88%)	8.6 (86%)	4.4 (87%)	29.5 (88%)
Spring 2017	4.47 (90%)	4.58 (92%)	8.71 (87%)	8.31 (83%)	4.20 (84%)	30.27 (86%)
Fall 2017	4.68 (94%)	4.56 (91%)	8.93 (89%)	8.56 (86%)	4.36 (87%)	32.5 (93%)

Student Learning Outcome 3.

Domain 3-Approach to Practice and Care.

- 3.1. Problem Solving (Problem Solver) – Identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution.
- 3.2. Educator (Educator) - Educate all audiences by determining the most effective and enduring ways to impart information and assess understanding.
- 3.3. Patient Advocacy (Advocate) - Assure that patients' best interests are represented.
- 3.4. Interprofessional Collaboration (Collaborator) – Actively participate and engage as a healthcare team member by demonstrating mutual respect, understanding, and values to meet patient care needs.
- 3.5. Cultural Sensitivity (Includer) - Recognize social determinants of health to diminish disparities and inequities in access to quality care.
- 3.6. Communication (Communicator) – Effectively communicate verbally and nonverbally when interacting with an individual, group, or organization.

Student Learning Outcome 4.

Domain 4-Personal and Professional Development.

- 4.1. Self-Awareness (Self-aware) - Examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.
- 4.2. Leadership (Leader) - Demonstrate responsibility for creating and achieving shared goals, regardless of position.
- 4.3. Innovation and Entrepreneurship (Innovator) - Engage in innovative activities by using creative thinking to envision better ways of accomplishing professional goals.
- 4.4. Professionalism (Professional) - Exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society.

Completion of inventories. Asking students to complete validated tests followed by differing learning activities and self-reflection is a strategy to develop self-awareness of motivation, metacognition and skills. Surveys or inventories are administered to students in the first and second professional year in preparation for discussion. In-class activities allow students, with and without advisors present, to interact and discuss similarities and differences in survey or inventory results. Reflection-based assignments document students' understanding of the personal characteristics in relation to their development.

ACT Engage. Engage was developed to measure student behaviors and psychosocial attributes (motivation and skills, social engagement, self-regulation) which are critical components of academic success. Results help students and advisors identify strengths and areas for improvement.

	Academic Success Index	Retention Index	Academic Discipline	Academic Self-Confidence	Commitment to College	General Determination
Fall 2015 (Class of 2019)	84	82	69	59	67	69
Fall 2016 (Class of 2020)	80	79	65	57	64	67
Fall 2017 (Class of 2021)	80	78	63	50	63	64
National (2017)	51	52	52	52	55	53

Data reported as a percentile.

Motivated Strategies for Learning Questionnaire (MSLQ). The MSLQ assesses the types of learning strategies and academic motivation used by college students. Results can help students improve motivation to study, study habits and course performance.

	Intrinsic Goal Orientation	Extrinsic Goal Orientation	Control of Learning	Basic Rehearsal Strategies	Elaboration Strategies	Critical Thinking	Help Seeking Behavior
Fall 2015 (Class of 2019)	5.02	5.26	5.61	4.89	4.91	4.08	4.45
Fall 2016 (Class of 2020)	5.63	4.87	6.09	5.35	5.59	4.60	5.05
Fall 2017 (Class of 2021)	5.35	5.47	6.02	5.38	5.11	4.23	4.83
National (2017)	5.03	5.03	5.74	4.53	4.91	4.16	3.84

Data reported are averages.

The results of the MSLQ indicate that our students demonstrate above-average strengths that facilitate their learning and growth. These results are predictive because the students demonstrate the capacity to excel academically and to matriculate through the program.

Attrition.

Graduation and Attrition Statistics for the Pharm.D. Program

University of Missouri – Kansas City, School of Pharmacy Graduation and Attrition Statistics for the Pharm.D. Program Class of 2011 – Class of 2017								
Year of Entry	Year of Graduation	Overall and By Site	Number Admitted	On Time Graduation (%)	Delayed Finish (%)	Attrition: Personal (%)	Attrition: Academic (%)	Graduation Rate of Original Class (%)
2012	2016	Total	123	116 (94.3%)	3 (2.4%)	1 (0.8%)	3 (2.4%)	119/123 (96.7%)
		Kansas City	95	89 (93.6%)	2 (2.1%)	0 (0%)	3 (3.2%)	91/95 (95.7%)
		Columbia	28	27 (96.4%)	1 (3.6%)	1 (3.3%)	0 (0%)	28/28 (100%)
2013	2017	Total	124	121 (97.5%)	2 (1.6%)	1 (0.8%)	0 (0.0%)	123/124 (99.2%)
		Kansas City	94	92 (97.9%)	2 (2.1%)	0 (0.0%)	0 (0.0%)	94/94 (100%)
		Columbia	30	29 (96.7%)	0 (0.0%)	1 (3.3%)	0 (0.0%)	29/30 (96.7%)
2014	2018	Total	123	116 (94.3%)	3 (2.4%)	1 (0.8%)	3 (2.4%)	119/123 (96.7%)
		Kansas City	95	89 (93.6%)	2 (2.1%)	0 (0%)	3 (3.2%)	91/95 (95.7%)
		Columbia	28	27 (96.4%)	1 (3.6%)	1 (3.3%)	0 (0%)	28/28 (100%)
2015	2019	Total	155	145 (93.5%)	4 (2.6%)	0 (0%)	3 (1.9%)	149/155 (96.1%)
		Kansas City	97	93 (95.9%)	4 (4.1%)	0 (0%)	1 (1.0%)	97/97 (100%)
		Columbia	31	26 (83.9%)	0 (0%)	0 (0%)	1 (3.2%)	26/31 (83.9%)
		Springfield	27	26 (96.3%)	0 (0%)	0 (0%)	1 (3.7%)	26/27 (96.3%)
2016	2020	Total	141	132 (93.6%)	5 (3.5%)	0 (0%)	2 (1.4%)	137/141 (97.2%)
		Kansas City	89	82 (92.1%)	2 (2.2%)	0 (0%)	2 (2.2%)	84/89 (94.4%)
		Columbia	24	23 (95.8%)	1 (4.1%)	0 (0%)	0 (0%)	24/24 (100%)
		Springfield	28	27 (96.4%)	1 (3.6%)	0 (0%)	0 (0%)	28/28 (100%)
2017	2021	Total	154	150 (97.4%)	4 (2.6%)	0 (0%)	0 (0%)	154/154 (100%)
		Kansas City	96	96 (100%)	2 (2.1%)	0 (0%)	0 (0%)	98/98 (100%)
		Columbia	27	25 (92.6%)	2 (7.4%)	0 (0%)	0 (0%)	27/27 (100%)
		Springfield	31	31 (100%)	0 (0%)	0 (0%)	0 (0%)	31/31 (100%)

Overall attrition rates are well within the standards set by ACPE. However, attrition due to academic dismissal for the classes of 2013, 2014 and 2015 exceeded the 5% limit set forth by ACPE. For the class of 2016 and 2017, attrition due to academic dismissal did not exceed that limit. The SOP is working to reduce attrition through the stringent and thorough admission process and close monitoring of student progression through the program. A student success program was implemented in the Fall of 2011 to detect academic struggle throughout the semester and to intervene as needed. In addition, the curriculum changed from a 1-5 to a 2-4 program with the entering class of 2012 (graduating class of 2016). More than a third of the overall attrition occurred during the first year of the 1-5 program; therefore, changing to a 2-4 curriculum should and has slow attrition.

Student Scholarships and Awards.

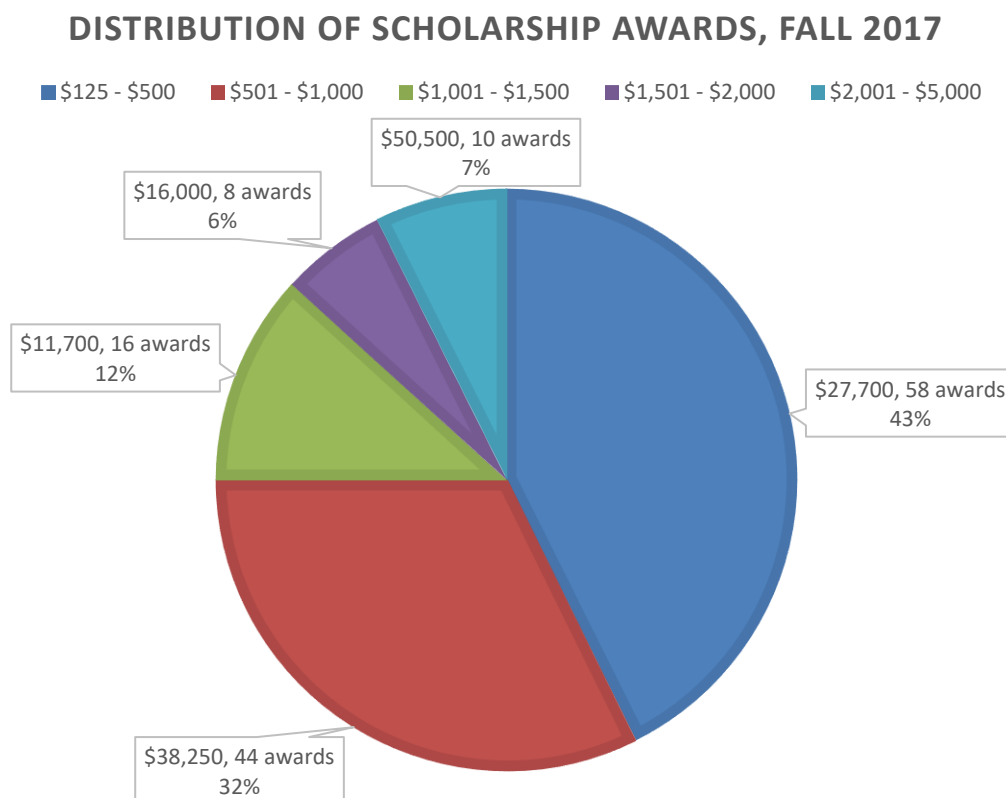
Number of Scholarships Awarded by Class.

University of Missouri – Kansas City, School of Pharmacy Number of Scholarships Awarded By Class Fall 2017				
Year of Study	Fall of 2014	Fall of 2015	Fall of 2016	Fall of 2017
P1	26	17	24	30
P2	33	42	28	25
P3	27	27	33	28
P4	20	31	25	36
Graduate	5	8	6	7
Students Receiving Multiple Scholarships	9	8	11	18
Total Scholarships Awarded	120	135	127	133

Percentage of Students that Received a Scholarship.

University of Missouri – Kansas City, School of Pharmacy Percentage of Students That Received a Scholarship Fall 2017				
Type of Student	Fall of 2014	Fall of 2015	Fall of 2016	Fall of 2017
All Students	80%	80%	66%	71%
Pharm.D. Students	85%	85%	69%	76%
Graduate Students	33%	33%	40%	37%

Scholarship Award Distribution.



Recognition of Student Honors and Accomplishments.

Achievers of Excellence. School of Pharmacy scholarship awardees are recognized at the Achievers of Excellence awards program each fall. The reception for students and their families, scholarship donors, faculty, staff and alumni is sponsored by the Pharmacy Foundation. Each student has his or her photograph taken with the scholarship donor, if possible, and a copy is sent to the donor. A brief biography submitted by each scholarship recipient is printed in the awards program booklet. Over 300 people attended the event in 2017.

UMKC Women's Council. The UMKC Women's Council presents their annual Graduate Assistance Awards at a reception in the spring. Doctor of pharmacy students are among the women recognized for their research projects. In 2013, one Doctor of Pharmacy student received an award. No Doctor of Pharmacy student received an award in years 2012, 2014, 2015, 2016, or 2017.

Doctor of Pharmacy Graduating Class. Each spring, award recipients in the Doctor of Pharmacy graduating class are recognized during the commencement ceremony and during the graduation banquets. Awards are given for superior academic achievement, leadership and service. Sponsors of the awards are invited to attend the ceremony and be recognized.

Licensure.

North American Pharmacist Licensure Examination.

North American Pharmacist Licensure Examination (NAPLEX) Pass Rates. Both the UMKC and national NAPLEX pass rates for first time test takers declined from previous year's results. UMKC performed below the national average in 2016, but returned to above national averages in 2017. The majority of unlicensed students had not tried a second attempt by the end of 2017. The reasons for the decline in pass rates are currently being evaluated locally within the school and nationally by AACP, ACPE and NABP.

University of Missouri – Kansas City School of Pharmacy National Pass Rate Comparison for NAPLEX 2014-2017		
Calendar Year	UMKC	National
2014	96.06%	94.35%
2015	94.53%	92.64%
2016	81.5%	85.86%
2017	89.5%	88.0%

NAPLEX Pass Rates for UMKC and Comparator Schools. UMKC NAPLEX pass rates were lower than most but not all neighboring programs. The first time pass rates varied widely in 2016.

School Name	2014 Graduates				2015 Graduates				2016 Graduates				2017 Graduates			
	All attempts	Pass rate (%)	First-time attempts	All attempts	Pass rate (%)	First-time attempts	All attempts	Pass rate (%)	First-time attempts	All attempts	Pass rate (%)	First-time attempts	All attempts	Pass rate (%)	First-time attempts	Pass rate (%)
University of Nebraska	41	97.56	40	41	97.56	40	41	97.56	40	41	97.56	40	59	93.22	56	94.64
University of Oklahoma	112	99.11	111	112	99.11	111	112	99.11	111	112	99.11	111	108	87.04	98	89.80
Creighton University	154	98.05	151	154	98.05	151	154	98.05	151	154	98.05	151	153	94.12	147	94.56
Southern Illinois University-Edwardsville	82	92.68	77	82	92.68	77	82	92.68	77	82	92.68	77	74	91.89	70	92.86
University of Kansas	149	98.66	147	149	98.66	147	149	98.66	147	149	98.66	147	169	88.17	154	90.91
University of Iowa	101	97.03	100	101	97.03	100	101	97.03	100	101	97.03	100	107	95.33	103	96.12
University of Missouri-Kansas City	127	96.06	124	127	96.06	124	127	96.06	124	127	96.06	124	133	89.47	123	89.43
St. Louis College of Pharmacy	195	91.79	182	195	91.79	182	195	91.79	182	195	91.79	182	229	85.59	209	88.04

Multistate Pharmacy Jurisprudence Exam.

Multistate Pharmacy Jurisprudence Exam (MPJE) Pass Rates. Both the UMKC and national MPJE pass rates for first time takers and all attempts fell from previous years' results. UMKC performed well-above the national average in 2017. While the National rate remained about the same lower rate in 2017, UMKC was able to increase its performance rate.

University of Missouri – Kansas City School of Pharmacy National Pass Rate Comparison for MPJE 2014-2017		
Calendar Year	UMKC	National
2014	96.97%	93.15%
2015	97.12%	92.89%
2016	84.48%	83.48%
2017	90.0%	85.20%

MPJE for UMKC and Comparator Schools. UMKC MPJE pass rates were comparable to other schools in the region. Among 7 schools in the Midwest area, UMKC MPJE pass rates were the fourth highest. In 2017, UMKC and other schools in this region, while similar to 2017, saw pass rates decreased from the pass rates recorded in past years.

School Name	2014 Graduates				2015 Graduates				2016 Graduates				2017 Graduates			
	All attempts	Pass rate (%)	First-time attempts	All attempts	Pass rate (%)	First-time attempts	All attempts	Pass rate (%)	First-time attempts	All attempts	Pass rate (%)	First-time attempts	All attempts	Pass rate (%)	First-time attempts	Pass rate (%)
Creighton University	31	100	31	31	100	31	31	100	31	31	100	31	37	94.59	35	94.29
University of Kansas	118	99.15	117	118	99.15	117	118	99.15	117	118	99.15	117	119	98.32	118	98.31
University of Iowa	56	98.21	55	56	98.21	55	56	98.21	55	56	98.21	55	76	88.16	69	89.86
University of Nebraska	35	100	35	35	100	35	35	100	35	35	100	35	52	98.08	51	98.04
University of Missouri-Kansas City	99	96.97	96	99	96.97	96	99	96.97	96	99	96.97	96	110	88.18	100	90.00
St. Louis College of Pharmacy	132	94.70	127	132	94.70	127	132	94.70	127	132	94.70	127	133	85.71	118	85.59
Southern Illinois University-Edwardsville	59	94.92	56	59	94.92	56	59	94.92	56	59	94.92	56	63	82.54	54	81.48

Note: UAMS graduates do not take the MPJE exam and are therefore not included in this table.

Post-Graduate Training and Employment. During the timeframe of March–June 2017 when the Class of 2017 students completed the Exit Survey, 93% of students stated they were employed or pursuing post-graduate training.

Career Choices.

University of Missouri – Kansas City, School of Pharmacy Post-Graduate Employment and Training for Pharm.D. Graduates 2014 – 2017				
Career Choices	2014*	2015	2016	2017
Total N=	88**	123	124	123
Residency/Fellowship	26%	29%	22%	24%
Community Chain	49%	42%	48%	52%
Community Independent	10%	7%	10%	6%
Hospital	10%	6%	5%	6%
Industry (Sales, Clinical Residency)	0%	0%	0%	1%
Graduate School	1%	1%	1%	1%
Government, Military, Nuclear, Benefits, Mail Order	2%	1%	0%	2%
Unknown	0%	0%	0%	1%
Undecided	0%	18%	14%	6%

* The 2014 Pharm.D. exit survey was administered in October to assess employment at 6-months post-graduation. The response rate was lower than in previous years (70% vs ~100%). The 2014 data reflects only those responses. The graduating class size was 126 (98 in KC and 28 in Col).

Residency Placement.

In 2017, twenty-eight students (22.5% of the class) were accepted into postgraduate residency or fellowship training programs. Twenty-four of these students attended classes in Kansas City and five students attended classes in Columbia. Students accepted positions in ten different states.

Residency Placement Data 2014-2017.

University of Missouri – Kansas City, School of Pharmacy Residency Programs: Pharm.D. Graduate Placement 2014-2017			
	Received Placement on Match Day	Received Placement during Scramble	Placement in Program not Participating in Match
Percentage of Class Applied (2014)	20.0	0.4	0.6
Percentage of Applicants Placed (2014)	65.2	2.7	<0.1
Percentage of Class Applied (2015)	21.9	4.0	4.0
Percentage of Applicants Placed (2015)	64.2	11.9	11.9
Percentage of Class Applied (2016)	19.4	0.8	4.0
Percentage of Applicants Placed (2016)	63.2	2.6	13.2
Percentage of Class Applied (2017)	22.5	0.8	1.6
Percentage of Applicants Placed (2017)	59.6	2.1	4.2

University of Missouri – Kansas City, School of Pharmacy Residency and Fellowship Placement Data 2014 - 2017						
Year	% of UMKC Applicants Placed Through the ASHP Residency Match *	% of National Applicants Placed Through the ASHP Residency Match*	Number of UMKC Applicants who Placed Through Scramble	Number of UMKC Applicants who Placed in Non-ASHP Accredited Programs	Number and % of UMKC Students Who Applied and Placed in a Residency or Fellowship Program	Number and % of Graduating Class Who Completed a Residency or Fellowship Program
2014	65.2% (30/46)	65.4%	4	1	68.8% (35/51)	27.8% (35/126) KC: 28 / COL: 7
2015	65.2% (27/42)	66.3%	4	5	70.6% (36/51)	29.2% (36/123) KC: 31 / COL: 5
2016	63.2% (22/42)	68.0%	1	5	76.3% (29/38)	24% (29/120) KC: 24 / COL: 5
2017	72.5% (29/40)	67.0%	1	2	61.7% (29/40)	23% (29/124) KC: 24 / COL: 5

*UMKC data to compare to ASHP National Rate

- From ASHP Resident Matching Program – remaining placement data collected from graduating students and faculty reports.
- Includes students who received residency through match and scramble and placed in programs not affiliated with ASHP.
- Data not available as to whether residency from scramble or from a non-accredited residency program.

Twenty-nine of forty-two UMKC student applicants (72.5%) were placed into a Postgraduate Year One Residency (PGY-I) versus 67.0% of all 2017 applicants (nationwide) for Phase I of the ASHP Resident Matching Program (the “Match”). Of note, the National Matching Service, who provides this data, does not report on placements made through the scramble process (Phase II) or for programs that do not participate in the Match.

In 2017, three additional UMKC students were placed into residency programs during Phase II or outside of the Match:

- One student placed during the scramble (Phase II).
- Two students placed in programs that do not participate in the Match.

Students from Previous Graduating Classes that Matched in Programs in 2017.

Class of 2016

6 matched in Phase 1 (4-KC and 2-Col). 3 placed in PGY-2 through Early Commitment. All were from Kansas City. 3 unmatched for PGY-2 in Phase I and nonparticipant in Phase II (2-KC and 1-Col).

- 1 Nonparticipant (KC) in Phase 1 and II.
- 9/12 (75%) who participated in PGY-II Match were matched vs 77% nationally.
- Location of Class of 2016 programs: MO-4; KS-1; PA-1; IL-1; KY-1; UT-1.

Class of 2008

One student nonparticipant in Phase I and unmatched in Phase II – KC.

Other Training and Degrees.

University of Missouri – Kansas City, School of Pharmacy Other Training and Degrees 2017	
2017 AACP Graduating Student Survey	Number of Students
Pharm.D. / M.B.A.	1
Pharm.D. / M.S.	1
Other	0
“Current plans upon your graduation from the College/ School of Pharmacy”	
Pharmacy Residency Program	30
Pharmacy Master’s Program	2
M.B.A. Program	1
Other Health Professions	1
Fellowship	3
No Plans for Further Education	86

Interdisciplinary Program.

Enrollment. Graduate students enrolled in nine or more credits during a regular semester or five credits during a summer session are considered full-time students. All students registered for fewer than those specified totals are classified as part-time students, unless they hold a teaching or research appointment at UMKC. Full-time enrollment for students holding graduate teaching assistant or graduate research assistant (GTA/GRA) appointments is six hours in a regular semester or three hours in a summer session. Continuous enrollment is required.

Graduate Student Enrollment in 2017.

- Spring:
 - Thirty-five students in the Division of Pharmaceutical Sciences
 - Ten students in the Division of Pharmacology and Toxicology
- Fall:
 - Thirty-five students in the Division of Pharmaceutical Sciences
 - Sixteen students in the Division of Pharmacology and Toxicology

Pharmaceutical Sciences IPh.D. Learning Outcomes. The mission of the Graduate Program in the *Division of Pharmaceutical Sciences* is to prepare graduate students to be the next generation of productive scientists by training them in the techniques and concepts of cutting edge research in the pharmaceutical sciences, including the sub-disciplines of pharmaceutics and medicinal chemistry.

Program Goals.

- Students will learn fundamentals of discipline through course work.
- Students will read and analyze scientific literature.
- Students will apply knowledge through cutting edge research.

Student Learning Outcomes.

- Students will master broad fundamentals of the discipline.
- Students will be able to read, analyze and apply lessons from scientific literature.
- Students will be able to perform scientific research in their sub-discipline, including the mastery of techniques and concepts specific to their projects.
- Students will gain skill in presentation of scientific materials, including writing, posters and public speaking.

Pharmacology and Toxicology IPh.D. Learning Outcomes. The mission of the graduate program in the *Division of Pharmacology and Toxicology* is to educate and train the next generation of competitive, skilled, and knowledgeable pharmacologists and toxicologists who are competent to conduct health-related research.

Program Goal.

- To help students develop the knowledge and skills essential for becoming innovators in the fields of Pharmacology and Toxicology.

Student Learning Outcomes.

- Mastery of fundamental and advanced knowledge in Pharmacology and Toxicology along with appropriate knowledge in related interdisciplinary scientific fields.
- Understanding of the appropriate conduct of scientific investigations and competency in writing reports, manuscripts, and grant proposals, as well as oral presentations related to the dissemination of experimental results.
- Competency in developing professional collaborations with colleagues engaged in scientific research.

Research Publications, Posters, and Presentations.

University of Missouri – Kansas City, School of Pharmacy IPh.D. Discipline Enrollment 2017		
IPh.D. Disciplines	Publications	Posters / Presentations
Pharmaceutical Sciences	11	9
Pharmacology and Toxicology	4	3

Graduate students demonstrate research proficiency through participation in faculty research, development of their own related studies and the dissemination of their work through peer-reviewed publications as well as presentations at scientific meetings. Typically, graduates from our doctoral programs have published multiple peer-reviewed articles and are engaged in an ongoing program of research. UMKC SOP IPh.D graduates are well-trained to work as independent scientists in industry and/or academe.

Publications.

Refereed Manuscripts

Abdalla F, Nookala A, Padhye S, Kumar A, and Bhat HK. 4-(E)-{(p-tolylimino)-methylbenzene-1,2-diol} (TIMBD) suppresses HIV1-gp120 mediated production of IL6 and IL8 but not CCL5. *Scientific Reports*. 2017; 7(8129): DOI:10.1038/s41598-017-08332-z.

Agrahari V, Li G, **Agrahari V**, Navarro I, Perkumas K, **Mandal A**, Pal D, Mitra AK. Pentablock copolymer dexamethasone nanoformulations elevate MYOC: in vitro liberation, activity and safety in human trabecular meshwork cells. *Nanomedicine*. 2017; 12(16): 1911-1926.

Alsousi AA, Siddiqui S, Igwe OJ. Cytokine-mediated Differential Regulation of Cyclooxygenase-2, High Mobility Group Box 1 Protein and Matrix Metalloproteinase-9 Expression in Fibroblast-like Synovial Cells. *Journal of Clinical and Experimental Pharmacology*. 2017; 7(4): 240-249.

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Coulibaly FS, Exoulin MJM, Purohit SS, Avon NJ, Oyler NA, Youan BC. Layer-by-Layer Engineered Microbicide Drug Delivery System Targeting HIV-1: Physicochemical and Biological Properties. *Molecular Pharmaceutics*. 2017; 14(10): 3512-3527.

Zhao Z, Li Y, **Jain A**, Chen Z, Liu H, Jin W, Cheng K. Development of a Peptide-Modified siRNA Nanocomplex for Hepatic Stellate cells. *Nanomedicine: Nanotechnology, Biology, and Medicine*. 2017 (Sept 7); DOI: 10.1016/j.nano.2017.08.017.

Chen Z, Liu H, **Jain A**, Zhang L, Liu C, Cheng K. Discovery of Aptamer Ligands for Hepatic Stellate Cells Using SELEX. *Thranostics*. 2017; 7(12): 1517-1527.

Jain A, Barve A, Zhao Z, Jin W, Cheng K. Comparison of avidin, neutravidin, and streptavidin as

nanocarrier for efficient siRNA delivery. *Molecular Pharmaceutics*. 2017; 14(5): 1517-1527.

Jain A, Cheng K. The principles and applications of avidin-based nanoparticles in drug delivery and diagnosis. *Journal of Controlled Release*. 2017; 245: 27-40.

Nookala AR, Mitra J, **Chaudhari NS**, Hegde ML and Kumar A.. An Overview of Human Immunodeficiency Virus Type 1-Associated Common Neurological Complications: Does Aging Pose a Challenge? *Journal of Alzheimer's Disease*. 2017; 60(1): S169-S193.

Kandel S, Shrestha R, **Adhikary P**. Prevalence of *Candida albicans* among the patients attending gynecology OPD with vaginal complaints. *World Journal of Pharmacy and Pharmaceutical Sciences*. 2017; 6(2), DOI: 10.20959/wjpps20172-8667.

Mandal A, Cholkar K, Khurana V, Shah A, **Agrahari V**, Bisht R, Pal D, Mitra AK. Topical Formulation of Self-Assembled Antiviral Prodrug Nanomicelles for Targeted Retinal Delivery. *Molecular Pharm*. 2017; 14(6): 2056-2069.

Bisht R, **Mandal A**, Jaiswal JK, Rupenthal ID. Nanocarrier mediated retinal drug delivery: overcoming ocular barriers to treat posterior eye diseases. *Wiley Interdiscip Rev Nanomed Nanobiotechnol*. 2017; DOI: 10.1002.

Mandal A, Bish R, Rupenthal ID, Mitra AK. Polymeric micelles for ocular drug delivery: From structural frameworks to recent preclinical studies. *Journal of Control Release*, 2017; 248: 96-116.

Mandal A, **Agrahari V**, Khurana V, Pal D, Mitra AK. Transporter effects on cell permeability in drug delivery. *Expert Opinion Drug Delivery*. 2017; 14(3): 385-401.

Posters and Presentations

Abdalla F, Nookala A, Kumar A, and Bhat HK. Resveratrol Analog TIMBD: Role in HIV-1 gp120-Associated Oxidative Stress. *UMKC School of Pharmacy Health Sciences Research Summit*. Kansas City, MO, April 28, 2017.

Li G, **Agrahari V**, **Agrahari V**, **Mandal A**, Mitra AK, Stamer WD. Delivery of Dexamethasone from Novel Pentablock Copolymer-Based Nanoformulation Promotes Prolonged Secretion of myocilin from Human Trabecular Meshwork Cells (Poster). *The Association for Research in Vision and Ophthalmology (ARVO)*. Baltimore, MD; June 23, 2017.

Alsousi AA and Igwe O. Role of Toll-like receptor 4 (TLR-4) in regulating trace metal-oxidant-mediated inflammatory phenotype. *Spring Symposium at UMKC 2017*. Kansas City, MO, April 2, 2018.

Coulibaly FS. Synthesis and characterization of a novel closomer nanocomplex intended for HIV entry inhibition. *AAPS 2017*. San Diego, CA; November 14, 2017.

Coulibaly FS. Modelling of HIV nanomicrobicide transport in vaginal fluid. *AAPS 2017*. San Diego, CA; November 15, 2017.

Coulibaly FS. Layer-by-Layer Engineering of HIV 1 gp120 Responsive Microbicide Loaded Microparticles. *UMKC Health Science Research Summit 2017*. Kansas City, MO; April 28, 2017.

Mandal A, Cholkar K, Khurana V, Shah A, **Agrahari V,** Bisht R, Pal D, Mitra AK. Topical Formulation of Self-Assembled Antiviral Prodrug Nanomicelles for Targeted Retinal Delivery. *2017 American Association of Pharmaceutical Scientists (AAPS) Annual Meeting*. San Diego, CA; November 13, 2017.

Mishra N. Development of an intratympanic formulation for delivering DHA derivatives using novel tetrablock copolymers for ototoxicity. *Pharmaceutics Graduate Student Research Meeting (PGSRM)*, University of Michigan, Ann Arbor, MI; June 16, 2017.

Patel P. Development of an intratympanic formulation for delivering DHA derivatives using novel tetrablock copolymer for ototoxicity. *49th PGSRM 2017*, University of Michigan, Ann Arbor, MI; June 16, 2017.

Miller MK, **Stancil SL,** Miller E, Satterwhite CL, Dowd MD, Michael J, Mollen CJ, Behr K, Park A, Inboriboon PC, Allen N, Goggin K. Novel Clinical Decision Support System to Improve Adolescent Sexual Health Care. *Pediatric Academic Society*. San Francisco, CA; May 8, 2017.

Masonbrink AR, **Stancil SL** et al. Adolescent reproductive health: views and practices of pediatric hospitalists. *Pediatric Academic Society*. San Francisco, CA; May 6-9, 2017.

Stancil SL. Are we up for the challenge? Improving reproductive health care in teens. *Children's Mercy Patient Care Services Research Grand Rounds*, Kansas City, MO; February 1, 2017.

Progression.

Spring 2017 – Fall 2017.

University of Missouri – Kansas City, School of Pharmacy		
Progression Data, 2017		
Division	Total Number of Students	
	Students Enrolled	Students Graduated
Division of Pharmaceutical Sciences	33	3
Division of Pharmacology and Toxicology	16	2

To mark progression through the graduate programs, a white coat ceremony was instituted in the 2012- 2013 academic year. Students who have completed two full years of study in one of the Ph.D. programs and who have filed a plan of study with the graduate school are eligible to participate in the white coat ceremony.

Students receive a white laboratory coat and take the oath of the scientist signifying their commitment to upholding the highest standards in their scientific contributions to new knowledge. In the inaugural white coat ceremony in May of 2013, 36 graduate students received their white coats. Five students received a white coat in April 2014, and 10 students received their white coat in April 2015. Four students received their white coat in April 2016. Eight students received their white coat in April 2017.

Graduate Student Awards.

Graduate Student Honors and Awards.

Division of Pharmaceutical Sciences.

Coulibaly, Fohana Soumahila.

- NIH/NCI F99/K00 Predoctoral to Postdoctoral Transition Award: Novel Dichloroacetate Prodrug for Targeted Cancer Therapy
- UMKC School of Graduate Studies Research Grant

Jain, Akshay

- American Association of Pharmaceutical Scientists (AAPS)-Physical Pharmacy and Biopharmaceutics section: Best Manuscript Contest Winner
- AAPS Drug Discovery and Development Interface Graduate Research Award
- AAPS Foundation Graduate Student Fellowship Award
- Preparing Future Faculty Award, UMKC, 2017-2018
- Graduate Faculty Fellowship Award, UMKC, 2017-2018
- Outstanding Leadership Award, Chair-Elect AAPS UMKS Student Chapter, 2016-2017

Mandal, Abhirup

- Travel Grant Award from School of Graduate Studies (UMKC) for poster presentation at AAPS 2017, San Diego, CA.

Patel, Pratikkumar

- Travel Grant from SGS for AAPS 2017, San Diego, CA

Division of Pharmacology and Toxicology.

(No data available for 2017)

2017 Graduations.

Graduates and Mentor.

Division of Pharmaceutical Sciences.

Agrahari, Vibhuti (Mitra)

Wei, Jin (Cheng)

Vemula, Harika (Gutheil)

Division of Pharmacology and Toxicology.

Nookala, Anantha (Silverstein)

Zhang, Yan (Wang)

IPh.D. Graduate Job Placement.

University of Missouri – Kansas City, School of Pharmacy Job Placement of IPh.D. Graduates 2017					
Name	Advisor	Class	Employer	Location	Position
Agrahari, Vibhuti	Mitra	2017	Shenandoah University	Winchester, VA	Assistant Professor
Jin, Wei	Cheng	2017	University of Kansas	Lawerence, KS	Postdoctoral Fellow
Nookala, Anantha	Silverstein	2017	Covance	Madison, WI	Staff Scientist
Vemula, Harika	Gutheil	2017	Harvard University	Cambridge, MA	Research Scientist
Zhang, Yan	Wang	2017	University of Kansas Medical Center	Kansas City, KS	Research Associate

Advancing Statewide Engagement

School of Pharmacy Faculty and Staff.

Faculty Engagement.

Clinical Practice Information. Within the Division of Pharmacy Practice and Administration, there were thirty-five clinical faculty located in twenty-five practice sites in the Kansas City Metropolitan Area, Columbia and Springfield.

- Balls Food Stores (Price Chopper), Kansas City. (1).
- Center for Behavioral Medicine, Kansas City. (1).
- Centerpoint Medical Center, Kansas City. (1).
- Cox Health Steeplechase Family Physicians Clinic, Springfield. (1).
- Cox Health System South, Springfield. (1).
- Faith Community Health, Branson. (1).
- Goppert-Trinity Family Care Clinic and Research Medical Center. (2).
- Jordan Valley Community Health Center, Springfield. (1).
- Kansas City CARE Clinic. (1).
- Mercy Hospital, Springfield. (2).
- MSU Care, Springfield. (1).
- North Kansas City Hospital, Kansas City. (2).
- Northwest Missouri Psychiatric Rehabilitation Center, St. Joseph. (1).
- Red Cross Community Pharmacy, Kansas City. (1).
- Shawnee Mission Health, Oncology Center, Kansas City. (1).
- St. Luke's Multispecialty Clinic, Kansas City. (1).
- Truman Medical Center Behavioral Health, Kansas City. (1).
- Truman Medical Center–Hospital Hill, Kansas City. (4).
- Truman Medical Center–Lakewood, Kansas City. (1).
- UMKC Drug Information Center, Kansas City. (3).
- University of Missouri Hospital, Columbia. (3).
- Harry S. Truman Memorial Veteran's Administration Hospital, Columbia. (1).
- Veterans Affairs Medical Center Honor Annex, Kansas City. (1).
- University of Missouri Physicians Fairview Internal Medicine Clinic, Columbia. (1).
- University of Missouri Physicians Family and Community Medicine Clinic, Columbia. (1).

Faculty Involved in Post-Graduate Training.

- The school offers the following practice-based residencies.
 - Three PGY-I community pharmacy residencies in affiliation with Balls Food Stores, North Kansas Hospital Community Pharmacy, and Walgreens Pharmacy.
 - One PGY-I residency in public health at the Kansas City Care Clinic.
 - Two fellowships in Drug Information.
- The school also provides faculty support for the following residency programs.
 - Center for Behavioral Medicine. (2).
 - Cox Health. (3).
 - Truman Medical Center. (5).
 - University Hospital at MU. (3).

School of Pharmacy Student Engagement.

Doctor of Pharmacy: Student Organization

Membership.

- Academy of Managed Care Pharmacy. (21).
- American Pharmacists Association Academy of Student Pharmacists. (341).
- Kappa Epsilon. (66).
- Kappa Psi (Kansas City). (127).
- Kappa Psi (Springfield). (39).
- National Community Pharmacists Association. (138).
- Public Health Organization. (41).
- Phi Lambda Sigma. (58).
- Rho Chi. (94).
- Student National Pharmaceutical Association. (20).
- Student Society of Health-System Pharmacists. (82).
- Student College of Clinical Pharmacy. (34).

Examples of Community Service Provided by Doctor of Pharmacy Student Organizations.

- DEA National Drug Take-Back Day
- Operation Breakthrough
- Medicare Part D Signup Sessions
- Shepherd's Center
- Vampire Cup Blood Donation
- Harvesters
- Race For the Cure
- Organ Donor Awareness
- Generation Rx
- Operation Self Care

Examples of Patient Care Provided by Doctor of Pharmacy Student Organizations.

- MedZou Project Homeless Connect
- Black Health Care Coalition Health Screenings
- Operation Immunization, Diabetes, Heart and Self Care
- ROO 4 Health
- Healthy for Life: the University of Missouri's Faculty and Staff Wellness Program
- Missouri State Fair Health Screenings
- Sojourner Clinic
- International Medical Mission Trips to Dominican Republic and Peru
- Bone Density Screenings at Assisted Living Facilities
- Falls Prevention

Examples of Philanthropy Provided by Doctor of Pharmacy Student Organizations.

- CRUSH Hunger Event
- Annual AIDS Walk
- KC Kidney Walk
- RxFactor
- Susan G. Komen Race for the Cure
- Harvesters
- Ronald McDonald House
- Bowling for Breast Cancer
- Marine Toys for Tots
- Vial of Life
- Adopt-A-Family
- Volley for Charity
- Angel Tree

Examples of Leadership, Clinical and Professional Skills Development Provided by Doctor of Pharmacy Student Organizations.

- Multicultural Lunch
- Clinical Pearls Discussions
- Professional Development Seminars
- Research Skills Seminars
- Clinical Pharmacy Challenge
- Clinical Skills Competition
- Attendance at National Meetings
- Residency Roundtable
- Strategies for Effective Networking
- National Patient Counseling Competition
- Advocacy and Legislative Days
- Compounding Competition
- Financial Planning
- Mock Interview Day
- Etiquette Lunch
- Pharmacy and Therapeutics Competition
- Rho Chi Clinical Pearls
- General Medicine I Roundtable
- Student Practice Research Networks
- Clinical Case Presentations
- CPR/First Aid Training

Examples of Social Events Provided by Doctor of Pharmacy Student Organizations. Baseball games, movie nights, game and trivia nights, casino night, formals, roller skating, holiday parties, laser tag, welcome picnics and dinners.

Student Community Engagement. T.E. Atkins UM Wellness Program (Healthy for Life) is the University of Missouri's established employee wellness program which spans all four system locations and serves all benefit-eligible employees. In 2010, the School of Pharmacy established a collaboration with this program to conduct health screenings and flu shot clinics annually for employees. Our P3 IPPE students are actively involved in providing services at these events, allowing them to utilize therapeutic knowledge and employ many direct patient care skills. Students screen patients seeking immunization, obtain consent and administer flu shots. Biometric screenings are also performed where students measure blood pressure, perform a finger-stick to obtain a blood sample for blood glucose and lipid panel readings, and obtain patient height and weight to calculate body mass index. This collaboration engages students and faculty and allows our students to demonstrate the knowledge, skills, and impact that pharmacists can have on community health and wellness. Biometric Screenings are offered every other year.

Healthy For Life Summary. The table below summarizes the SOP involvement with Healthy for Life.

University of Missouri – Kansas City, School of Pharmacy Healthy for Life Involvement 2013 - 2017								
Healthy For Life Summary Information	2013-2014		2014-2015		2015-2016		2016-2017	
	KC	MU	KC	MU	KC	MU	KC	MU
Flu Shots Administered	375	682	680	693	914	733	1104	779
Biometric Screenings and Education	*	*	694	350	*	*	*	*
Students	124		120		124		138	
Faculty	8		10		10		7	

SOP immunization protocol was established in 2011.

Doctor of Pharmacy Student Organization Awards and Honors.

American Society of Health-System Pharmacists. National Clinical Skills Competition Top 10 finish

- Paige Melling and Miranda Verdier

American Association of Colleges of Pharmacy. Walmart Scholars

- Student – Sarah Massey/Faculty Mentor – Valerie Ruehter
- Student – Janna Brown/Faculty Mentor - Lisa Cillessen

American Pharmacists Association –Academy of Student Pharmacists. UMKC Student Government Association

- Outstanding Service Program of the Year
- Outstanding Leader of the Year (Elizabeth Rodman, Kansas City President)
- Outstanding Leader Award (Kelly Cochran, Faculty Advisor, MU site)
- Outstanding Graduate/Professional Award (TJ Pham, Kansas City Graduate)

IPh.D. Student Engagement.

Graduate Student Organizations – Memberships.

- American Association of Pharmaceutical Scientists (30).
- Pharmaceutical Sciences Graduate Student Association (33).

School of Pharmacy Alumni Engagement.

Alumni Numbers. As of July 2017, the campus advancement office records showed that the School of Pharmacy had 4,663 presumed living alumni members; 3,716 are listed as “potentially contactable,” 3,077 have a mailing address, 2,256 have a known phone number and 2,372 have a known email address.

University Rank for Volunteer Engagement. For the eleventh year, pharmacy remains first in total volunteer hours provided by alumni and preceptors. As of July 1, 2017, volunteers contributed almost 129,000 hours of time and service in 2016-2017 representing 61% of all volunteer service hours recorded by the UMKC campus.

Number of Alumni Preceptors. 413 pharmacy professionals are on the 2016-2017 list of preceptors for the Division of Pharmacy Practice and Administration, and a large percentage of them are alumni.

- 2013-2014: preceptors provided 122,280 volunteer hours.
- 2014-2015: preceptors provided 151,682 volunteer hours.
- 2015-2016: preceptors provided 128,960 volunteer hours.
- 2016-2017: preceptors provided 138,144 volunteer hours.

Alumni Participation: School Committees and Events.

Alumni Service on School Committees.

- Admissions. (1).
- Curriculum. (1).
- Task Force on Diversity. (1).

Dean's Advisory Council. Thirty of the thirty-five members of the Dean's Advisory Council were School of Pharmacy alumni. The council invites students to their spring and fall meetings to meet one-on-one with the members.

Pharmacy Foundation Board. In 2017, twenty-two of the twenty-six members of the Pharmacy Foundation Board of Directors were School of Pharmacy alumni. Board members have opportunities to interact with students at the annual golf tournament, the Achievers of Excellence program, and other school activities.

Pharmacy Alumni Association. Fourteen alumni serve on the Pharmacy Alumni Association Board.

- Several alumni serve as guest speakers in required and elective pharmacy courses.
- APhA-ASP invites alumni to speak at some of their events and supervise at health screenings.
- Alumni attend Kappa Psi's annual Volley for Charity event and Kappa Epsilon's Bowling for Breast Cancer fundraisers.

Volunteer Hours.

In addition to preceptors, the school reported the following volunteer hours for events and meetings of the Pharmacy Alumni Association, Pharmacy Foundation and Dean's Advisory Council.

- 2013-2014: 242 hours.
- 2014-2015: 213 hours.
- 2015-2016: 159 hours.
- 2016-2017: 165 hours.
 - The Pharmacy Alumni Association sponsors annual student appreciation day at all three sites.
 - Pharmacy alumni serve as speakers each year at the Achievers of Excellence. Alumni have also been invited to participate in the White Coat ceremony.
 - In the spring semesters from 2013 to 2017, alumni served as the keynote speakers for the School of Pharmacy commencement ceremonies and a representative from the Pharmacy Alumni Association also speaks each year at both the winter and spring Commencement ceremonies.

School of Pharmacy Fundraising.

Fundraising Numbers. The campus advancement office reports fundraising data on a fiscal year basis. Fundraising for the School of Pharmacy for 2013-2017 is presented in the following table.

University of Missouri – Kansas City, School of Pharmacy Fundraising Numbers 2014 - 2017		
Fiscal Year	Funds Raised	Number of Donors
Fiscal year 2014 (July 1, 2013-June 30, 2014)	\$148,865.69	304
Fiscal year 2015 (July 1, 2014-June 30, 2015)	\$225,936.01	378
Fiscal year 2016 (July 1, 2015-June 30, 2016)	\$224,159.85	287
Fiscal year 2017 (July 1, 2016-June 30, 2017)	\$202,869.24	292

Only includes annual fund, scholarship or other major cash gifts

The UMKC campus was engaged in a capital campaign, including annual, major and estate gifts, from July 1, 2010 to January 31, 2017. During this time, the School of Pharmacy raised \$9,238,895.00 for the recording time period of the campaign.

Scholarships Offered. The capital campaign goal and project list including scholarship support with goals to raise.

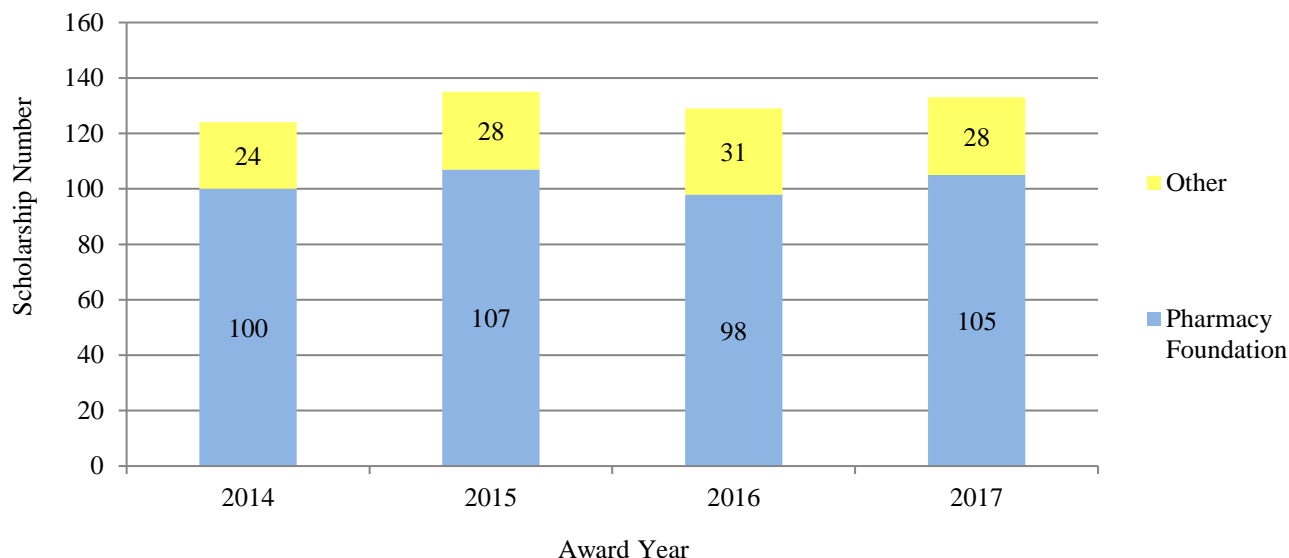
Private Funding. The original goal in 2009 was to establish new scholarships specifically for the Springfield campus. However, as we have grown as a School in the past eight years, our messaging to the community and our alumni has been “one school/three locations.” As a result, nearly all of our donors who establish new endowments or annual fund scholarships do not stipulate a specific school or location, but instead tend to favor what the student’s future intention is in pharmacy.

Pharmacy Foundation. In 2017, twenty-three of the twenty-seven members of the Pharmacy Foundation Board of Directors were School of Pharmacy alumni. Board members have opportunities to interact with students at the annual golf tournament, the Achievers of Excellence program, and other school activities

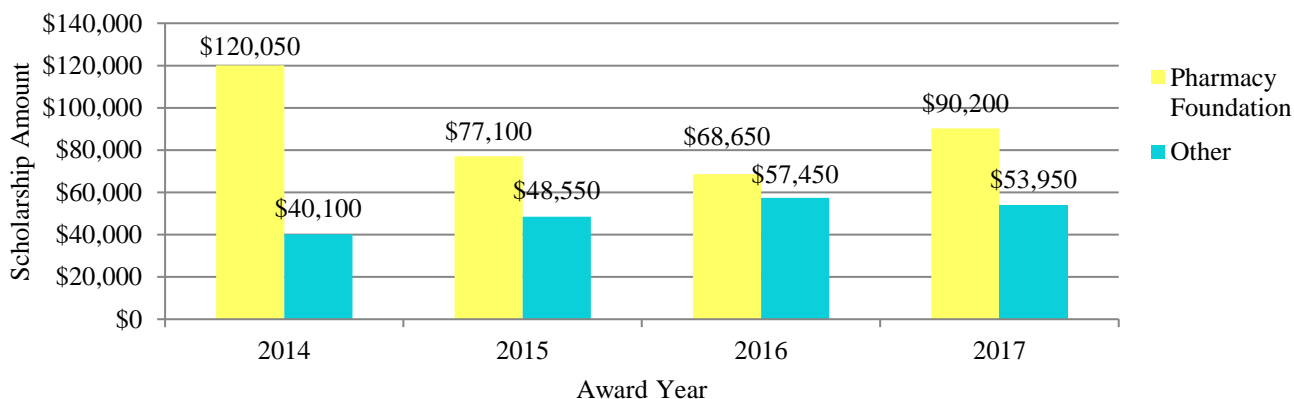
New Pharmacy Foundation Scholarships.

- Fall 2014: Two new endowed scholarships; six new annual scholarships; one one-time scholarship.
- Fall 2015: Five new annual scholarships.
- Fall 2016: One new endowed scholarship; four new annual scholarships.
- Fall 2017: Three new annual scholarships.

Number of Scholarships Awarded.



Total Scholarship Amounts Awarded.



School of Pharmacy Communication.

Development and Dissemination of Communication.

The school employs a full-time staff member in the position of coordinator of communication and promotions, who serves as the resource and contact for news and information for the campus public relations department and the school. The coordinator is responsible for the dissemination of news to public relations, social media, web site and appropriate news outlets and/or organizations. The coordinator maintains and updates the School of Pharmacy's web page and Facebook site. Two full time recruiters and the SOP Director of Advancement also posted on social media, including SOP Twitter, SOP Instagram, and Facebook.

The school's web site has a page dedicated to news releases related to students, faculty, staff, alumni, awards, and upcoming events (<http://pharmacy.umkc.edu/news/>). The page includes a link for online submission of news items. School of Pharmacy news releases also appear on

the web page of the UMKC office of public relations (<http://www.umkc.edu/news/>) and “UMatters,” the web page for UMKC faculty and staff news (<http://info.umkc.edu/umatters/>).

Pharmacy Events and Programs.

- All university alumni are invited to the UMKC Alumni Awards program held in June. The invitation is produced and e-mailed to all UMKC alumni by main campus each year.
- The Pharmacy Alumni Association, Pharmacy Foundation and Dean’s Advisory Council members receive regular communications for events such as student appreciation days, the Health Sciences Student Research Summit, our Professional Dedication Ceremony, the Achievers of Excellence Scholarship Awards, our career fair and commencement, and campus-wide Alumni sponsored events such as the Regalia Run and Founders Week.
- The Pharmacy Foundation golf tournament player brochure is e-mailed to over 1,300 people – alumni, past players, group members, SOP faculty and staff.
- The Pharmacy Alumni reunion weekend brochure is e-mailed to all pharmacy alumni, Alumni and Pharmacy Foundation board members, Dean’s Advisory Council members and friends of the school of pharmacy each fall.
- The Pharmacy Alumni Board sponsors a number of events each year such as our wine tasting event, alumni trivia night and other programs in partnership with our Columbia and Springfield campuses. Invitations for each of these events are e-mailed to over 1,500 alumni each year.
- The Pharmacy Alumni Board is partnering with the Pharmacy Foundation in fall 2018 for our first annual indoor golf tournament at Top Golf in Overland Park, KS. All proceeds will support the Pharmacy Foundation student scholarship fund.

The UMKC Advancement division produces a monthly e-blast newsletter known as *eRoos* with all known alumni related information from across the campus. This newsletter is sent to all UMKC alumni with a known e-mail account. The UMKC Alumni Association includes news about alumni on their web page (<http://www.umkcalumni.com>) under “Roos in the News” and “Class Notes.”

Promote Diversity

School of Pharmacy Recruitment Activities and Diversity Initiatives.

Summary of 2015-2017 UMKC School of Pharmacy Recruitment Activities

School of Pharmacy Hosted and/or in Collaboration with other Programs Events – 50% of events were focused on underrepresented students.

- Springfield Student Appreciation Day
- Columbia Student Appreciation Day
- Kansas City Student Appreciation Day
- Admission Interviews – seven dates
- BESt Group Visit*
- College for a Day - PrepKC*
- Urban Universities and AHEC (Area Health Education Consortium)*
- Pathways to Prosperity Teacher Prep/Development Day - PrepKC*
- Saturday Academy Program – UMKC School of Medicine*
- Harmon High School Teacher Development Day - PrepKC*
- HealthTracks Summer Camp - AHEC/KC STEM Alliance*
- HealthStart Summer Camp – PrepKC/UMKC health professional schools*
- Our Kids Program – KC Police Department*
- School of Pharmacy Summer Camp – Kansas City
- School of Pharmacy Summer Camp – Columbia
- Pharmacy 7100A class
- UMKC Pre-Pharmacy Society monthly meetings
- Welcome Center-School of Pharmacy visit days – nine dates

Volker Campus Hosted Events - 15% of events were focused on underrepresented students.

- Freshman and Transfer Orientations – nine dates
- UMKC Convocation
- Fall 2017 UMKC Preview Days – three dates
- Spring 2017 UMKC Preview Days – three dates
- Experience UMKC Day
- UMKC A&S 115 Prehealth Class
- UMKC University College 101 Class
- UMKC College of Arts and Sciences Pre-Professional Seminar/Luncheon
- Junior Achievement Keep Calm and Career On College Fair*
- African Centered Prep Academy*
- Community College Counselor Connection Day

Off Campus High School Events– 50% of events were focused on underrepresented students.

- Career Jumping – Allen Village*
- Agricultural Education Field Day
- Career Jumping – Grandview*
- Missouri Western Regional College Fair
- Infinite Scholars (Sept.) - Ferguson, MO*
- Infinite Scholars (Sept.) - St. Louis, MO*
- Mid-Missouri Regional College Fair
- NACAC (National Association for College Admission Counseling) Kansas City
- Liberty College Fair
- Career Jumping – Center*
- St. Louis Public Schools Fair*
- Springfield College Fair
- Lee's Summit District Fair

- St. Louis NACAC (Oct.)*
- Career Jumping – Hickman Mills*
- JCCC (Johnson County Community College) Health Sciences Fair
- Lee's Summit West Career Fair
- Blue Valley Northwest Career Fair
- Infinite Scholars (Feb.) – Ferguson, MO*
- Infinite Scholars (Feb.) – St. Louis, MO*
- Missouri School Counselors Association Conference
- Career Jumping – Schlagle*
- Lincoln Prep –Kansas City (SNPhA visit)*

Off Campus College Events – 0% of events were focused on underrepresented students.

- KSU (Kansas State University) Prepharmacy Club
- JCCC PrePharmacy Club Visit
- University of Arkansas Pre-Pharmacy Society
- MSSU (Missouri Southern State University) Career Fair
- Mizzou HS 1000 class
- MO Western University Pre-Health Club
- Westminster Pre-Health Club
- Mizzou School of Health Professions (SHP) Career Fair (Oct.)
- Mizzou Professional Panel
- Career Expo University of MO Hospital
- Truman State Career/Grad Expo (Sept.)
- Mizzou Pre-Pharmacy Society
- Longview Community College Showcase
- Avila University Pre-Health Class
- Mizzou SHP Career Fair (March)
- MSU (Missouri State University) Majors Fair
- Truman State Career/Grad Expo (Feb.)
- Mizzou Scrub-in For Health
- MSU Pre-Pharmacy Society

*Focused on underrepresented students

Diversity Surveys and Data.

AACP Graduating Student Survey. Results from the 2017 AACP Graduating Student Survey revealed that 97.5% of students feel that the SOP is welcoming to students with diverse backgrounds.

Diversity of Doctor of Pharmacy Students.

University of Missouri – Kansas City, School of Pharmacy Demographic Data of Enrolled Student: Number of Students and Percentage by Groups								
Race	2014		2015		2016		2017	
White	391	76.3%	407	74.8%	419	74.3%	369	65.6%
Black or African American	22	4.2%	34	6.3%	37	6.5%	18	3.2%
Hispanic or Latino	12	2.3%	14	2.6%	9	1.6%	29	5.2%
Asian or Pacific Islander	58	11.3%	60	11.0%	59	1.0%	96	17.0%
American Indian or Native Alaska	3	<1%	1	<1%	0	0%	0	0%
Other/Unknown	12	2.3%	9	1.7%	12	2.1%	18	3.2%
Foreign	2	<1%	5	0.9%	12	2.1%	18	3.2%
Two or More Ethnicities	12	2.3%	14	2.6%	14	2.5%	14	2.6%
Grand total	512		544		564		562	

2010 U.S. Census Data: Racial Diversity in Missouri*

Race	%
White	79.8
Black or African American	11.8
Hispanic or Latino	4.1
Asian	2.0
American Indian and Alaskan Native	0.6
Native Hawaiian and Other Pacific Islander	0.1
2 or more races	2.2

**Obtained from U.S. Census Bureau website.*

School of Pharmacy Faculty Diversity.

Qualification and Diversity of Faculty.

The school seeks to recruit, retain, and support a highly qualified and diverse faculty. Our faculty represent a range of ethnicities/races. Faculty demographics as of September 2017 are provided below.

University of Missouri – Kansas City, School of Pharmacy Qualification and Diversity of Faculty 2017			
Clinical/Non-clinical	Female	Male	Total
Clinical Academic			
Hispanic or Latinx	1	0	1
White	29	7	36
Total	30	7	37
Non-clinical Academic			
Asian	0	7	7
Black or African American	0	2	2
White	2	5	7
Total	2	14	16
Administrative			
Asian	0	2	2
Black or African American	0	0	0
White	2	4	6
Total	2	6	8
Grand Total	34	27	61
Race and Rank			
Asian			
Associate Research Professor	0	1	1
Associate Professor	0	3	3
Professor	0	5	5
Total	0	9	9
Black or African American			
Associate Professor	0	1	1
Professor	0	1	1
Total	0	2	2
Hispanic or Latino			
Clinical Associate Professor	1	0	1
Total	1	0	1
White			
Associate Research Professor	0	1	1
Clinical Assistant Professor	18	1	19
Clinical Associate Professor	10	5	15
Clinical Professor	1	2	3
Assistant Professor	0	0	0
Associate Professor	1	1	2
Professor	3	6	9
Total	33	16	49
Grand Total	34	27	61

Full-Time Faculty. At the start of the 2017 fall semester, the School of Pharmacy had sixty-one (Division of Pharmacy Practice and Administration: forty-six, Division of Pharmacology and Toxicology: six, Division of Pharmaceutical Sciences: nine) full-time faculty. Thirty-five were clinical, non-tenure track appointees. Twenty-one were tenure track appointees. Eight faculty were located in Columbia and eight were located in Springfield. The remainder were located in Kansas City.

Faculty Recruitment. In 2017, the school recruited for three positions.

- Three Assistant Clinical Professor for the Division of Pharmacy Practice and Administration at the Kansas City site.

Faculty Hires, Promotion and Turnover.

Faculty hires from 2013-2017.

- 2013: Kylie Barnes, Amanda Stahnke.
- 2014: Paul Gubbins, Heather Lyons-Burney, Diane McClaskey, Dominick Salvatore, Roger Sommi (promotion to Associate Dean at MU).
- 2015: Sarah Billings, Lisa Cillessen, Elizabeth Englin, Kendall Guthrie, Barbara Kasper, Jamie Koerner, Heather Taylor, Maqual Graham (promotion to Associate Dean for Academic Affairs).
- 2016: Kathryn Holt, Sarah Cox, April Porter
- 2017: Sarah Oprinovich, Melissa Palmer, Diana Tamer

Retention of new hires. From 2010 through 2017, there were 19 new hires. Eighteen of the hires are still with the school for an 95% retention rate.

Progress toward promotion and tenure with award effective September 1, 2017. Two tenure track faculty members applied for and received promotions in 2017. In addition, three non-tenure track faculty were promoted.

University of Missouri – Kansas City, School of Pharmacy Faculty Progress Toward Promotion and Tenure 2017					
Faculty Progress	2013	2014	2015	2016	2017
Under Tenure Review	1	0	0	0	1
Awarded Tenure	1	0	0	0	1
TT Promoted	3	0	0	2	2
NTT Promoted	2	3	2	3	3

Faculty turnover. From 2012 through 2017, 21 faculty members left the School of Pharmacy.

- 2012: (3; includes 1 retiree who is now emeritus faculty).
- 2013: (3).
- 2014: (5; one was an early retirement, one was an internal transfer).
- 2015: (8; two retirements, one internal transfer).
- 2016: (1; faculty member passed away).
- 2017: (1; faculty member retired)

Faculty Certifications and Licensure Status. In the Division of Pharmacy Practice and Administration, 30 out of 45 faculty (67%) have board certifications; 43 out of the 45 faculty (96%) have active pharmacist licenses in one or more states.

In the Division of Pharmaceutical Sciences, one faculty member is a registered pharmacist—Thomas Johnston (Kansas active; Minnesota inactive). Ashim Mitra holds a State License for Bureau of Narcotics and Dangerous Drugs, Missouri Department of Health and Federal License for Controlled Substances/US Drug Enforcement Administration.

In the Division of Pharmacology and Toxicology, two faculty members are registered pharmacists—Orisa Igwe (Louisiana inactive; Minnesota inactive; Ohio inactive) and Russell Melchert (Arkansas active; Oklahoma active).

Faculty Awards.

- Teacher of the Year awards (awarded Spring 2017)
 - Class of 2018
 - First place: Diane McClaseky
 - Runner up: Leigh Anne Nelson
 - Class of 2020
 - First place: Thomas Johnston
 - Runner up: Russell Melchert
 - Class of 2021
 - First place: Simon Friedman
 - Runner up: Karyn Turla
- Rho Chi Teacher of the Year 2017
 - Kylie Barnes

Joint Awards:

- AACP Experiential Education Section Award of Excellence in Scholarship in Experiential Education. Brownfield A, Garavalia L, Gubbins PO, Ruehter V.

Bhat HK.

- Overseas Fellow of the Royal Society of Medicine

Brownfield A.

- APhA-ASP Region 6 Operation Diabetes Award
- APhA-ASP Region 6 Operation Heart Award
- APhA-ASP Region 6 Generation Rx Award
- APhA-ASP Class AA National Chapter Achievement Award Winner (1st Runner Up)
- APhA-ASP National OTC Medication Safety Award (2nd Runner Up)

Bzowickyj A

- 2nd Place, 2017 ACCP Endocrine & Metabolism PRN Annual Meeting Walk Rounds, American College of Clinical Pharmacy Endocrine & Metabolism PRN

Cochran KA

- Preceptor of the Year, University of Missouri-Kansas City School of Pharmacy, Kansas City, MO

- Quality Improvement Champion, Department of Medicine, University of Missouri School of Medicine, Columbia, MO

Guthrie, K.

- University of Missouri Faculty Scholars Program

Johnston T.

- Outstanding Teacher of the Year, School of Pharmacy, University of Missouri-Kansas City, Kansas City, MO

Kasper, B.

- University of Missouri System Faculty Scholars Program Graduate

Lindsey C.

- Alumnus of the Year, Phi Lambda Sigma

Liu Y.

- Top three abstract submissions (as the primary author) among over 450 submissions, Academy of Managed Care Pharmacy (AMCP)'s Managed Care & Specialty Pharmacy Annual Meeting 2017. Denver, CO. Mar 27-30, 2017

Lyons-Burney H.

- UMKC School of Pharmacy Alumni Achievement Award 2017

Melchert RB.

- *Ingram's Magazine* 2017 Icon of Education

Mitra AK.

- AAPS Outstanding Educator Award, American Association of Pharmaceutical Scientists
- Dr. Roger Vogel Award for Pharmaceutical Research, an *International Research Award from ARVO*, (Association for Research in Vision and Ophthalmology)

Patterson M.

- Top Reviewer Recognition, Research in Social and Administrative Pharmacy (RSAP)

Smith AJ.

- Fellow American College of Clinical Pharmacy

Stahnke A.

- Phi Lambda Sigma Honorary Member

Taylor H.

- Cardinal Health Generation Rx Champions Award, Missouri Pharmacy Association and Cardinal Health Foundation

School of Pharmacy Staff Diversity.

Qualification and Diversity of the SOP Staff.

Staff Demographics.

University of Missouri – Kansas City, School of Pharmacy Staff Demographics 2017			
Race	Male	Female	Total
American Indian	0	0	0
Black or African American	0	1	1
Hispanic or Latinx	0	2	2
White	4	18	22
Asian	0	0	0
Two or more races	0	1	1
Not reported	0	0	0
Total	4	22	26

Staff Recruitment. In the hiring of one full-time staff member in 2017, UMKC Human Resources screened applicants and forwarded three applications to the school for the position. Interviews took place and offers were made to the most qualified candidates. Additionally, three new part-time positions were added in Columbia.

Staff Development. All staff (100%) completed professional development training in 2017. All staff (100%) participated in the development of the SOP strategic plan. The development process took place throughout the year with all school meetings, development sessions offered by Human Resources and through myLearn.

Staff Retention.

- 2012: 96% retention rate; twenty-three staff positions; one staff member left. Instructional technology support staff retired and the position was centralized. One position was added for the Springfield expansion.
- 2013: 96% retention rate; twenty-three staff positions. Division of Pharmacology and Toxicology staff left and was replaced. In addition, we had a shared advancement officer and a shared development officer.
- 2014: 84% retention rate; twenty-five staff positions; four staff members left. One new position was created in the Office of Experiential Learning to address a concern of the accrediting body. One position within the Office of Student Affairs was not recruited due to budgetary reasons and lack of need within the department. Three positions were recruited and filled. In addition, we had a shared advancement officer and a shared development officer.
- 2015: 88% retention rate; twenty-five staff positions; three staff members left. One position was recruited in 2015, remainder of positions were filled in 2016. The shared advancement

officer and a shared development officer was terminated mid-year and the decision was made not to fill that position due to funding.

- 2016: 80% retention rate; twenty-six staff positions; five staff members left. One new position was recruited (Springfield Campus) and five open positions were filled in 2016
- 2017: 93% retention rate; twenty-six staff positions; two staff members left. One open position was filled in 2017

Staff Awards. In December 2017, the dean hosted a holiday luncheon for the faculty and staff in Kansas City. Staff awards were presented at the luncheon. The recipients were nominated and selected by a vote of all faculty and staff in the school. The names of the winners in each category were engraved on a plaque in the second-floor hallway of the Health Sciences Building. The names were also submitted to the campus staff awards committee as the School of Pharmacy's nominees for the campus awards.

Human Resources Campus Collaboration Award.

- Nancy Bahner, Business Office

Chancellor's Education First Award.

- Shelly Janasz, Office of Student Affairs

Chancellor's True Unsung Hero Award.

- Mary Swick, Office of Student Affairs

Student Mentor Award.

- Shannon Vacek, Office of Student Affairs

Lead in Life and Health Sciences: Excel in Research and Promote Economic Development

School of Pharmacy Research.

Faculty Research Grant Institutional Ranking.

University of Missouri – Kansas City, School of Pharmacy American Association of Colleges of Pharmacy Data Fiscal Year 2016 (October 1, 2015-September 30, 2016)*					
Scope of Funding Awards	Total Funded Faculty Investigators	National Average for Funded Investigators	Total Funding	National Average for Total Funding	Institution Rank
Total National Institutes of Health Research	3	9.0	\$889,475	\$4,086,627	55 (n=94)
Total Other Federal Research	0	3.6	\$0.00	\$982,017	NA (n=71)
Total Research Funding–All Federal Sources	3	10.4	\$889,475	\$4,584,506	60 (n=99)
Total Research Funding Awards from Non-Federal Sources	4	6.6	\$133,450	\$1,014,791	69 (n=103)
Total Extramural Research	7	13.0	\$1,022,925	\$4,941,501	64 (n=113)

*This chart represents the most current data available at time of publication (May 31, 2018).

University of Missouri – Kansas City, School of Pharmacy Funding Progression by Year					
Year	Total Funded Faculty Investigators	National Average for Funded Investigators	Total Funding	National Average for Total Funding	Institutional Rank
2015	7	12.8	\$2,779,370	\$5,525,182	46/100
2016	7	13	\$1,022,925	\$4,941,501	64/113

School of Pharmacy Grant Proposals.

Active Grants. In 2017, faculty in the School of Pharmacy had twenty-four active grants: five through the National Institutes for Health, one through the American Cancer Society, one through US Army Medical Research, one through the National Center for Interprofessional Practice and Education, and sixteen grants that are industry/foundation/other.

The University of Missouri-Kansas City Active Grants 2017				
Principal Investigator	Agency	Active Dates	Direct Costs	Indirect Costs
Hari Bhat	University of Missouri Research Board	1/14/2015-1/13/2017	\$40,000.00	
Kun Cheng	NIH National Institute on Alcohol Abuse and Alcoholism	9/01//2012–8/31/2018	\$230,317.00	\$105,658.00
Kun Cheng	American Cancer Society	7/01/2015-6/30/2018	\$437,501.00	\$87,499.00

Kun Cheng	NIH	8/1/2017-6/30/2021	\$776,222.00	\$426,922.00
Lisa Cillessen	Missouri Dept. of Health and Senior Services	7/1/2016-6/30/2017	\$6,000.00	
Lisa Cillessen	Missouri Primary Care Association	6/1/2016-12/31/2017	\$10,000.00	
Simon Friedman	NIH National Institute of Health	8/1/2015-7/31/2019	\$984,479.00	\$388,150.00
William Gutheil	NIH National Institute of Allergy and Infections	3/15/2016 – 2/28/2018	\$275,139.00	\$127,361.00
Jamie Koerner	St. Louis University	7/1/2016 – 6/30/2017	\$35,000.00	\$0.00
Anil Kumar	NIH National Institute on Alcohol Abuse	7/1/2016 – 6/30/2018	\$365,898.00	\$182,949.00
Cameron Lindsey	National Center for Interprofessional Practice and Education	9/1/2016--12/1/2018	\$50,000.00	
Heather Lyons-Burney	ACT Missouri	6/1/2016--7-1-2017	\$4,804.76	
Heather Lyons-Burney	City of Branson	01/01/2016--01/01/2017	\$12,000.00	
Ashim Mitra	Anida Pharma Inc.	2/1/2016--1/31/2018	\$70,000.00	\$49,700.00
Mridul Mukherji	US Army Medical Research	6/20/2013–6/19/2018	\$366,483.00	\$96,017.00
Leigh Anne Nelson	The Feinstein Institute For Medical Research	4/1/2014-2/28/2017	\$15,201.00	\$3,964.00
Leigh Anne Nelson	Janssen Scientific Affairs LLC	12/21/2015-05/9/2018	\$12,874.00	\$3,347.00
Leigh Anne Nelson	North Shore	5/10/2017-3/31/2023	\$1,522.00	\$0.00
Leigh Anne Nelson	North Shore	8/14/2017-7/31/2018	\$0.00	\$0.00
Roger Sommi	Auspex Pharmaceuticals	8/1/2014–7/11/2017	\$37,564.00	\$11,645.00
Roger Sommi	Florida Atlantic University	8/1/2015-7/31/2017	\$50,604.00	\$13,157.00
Roger Sommi	Janssen Scientific Affairs LLC	9/4/2016 – 6/30/2017	\$3,630.00	\$944.00
Roger Sommi	Neurocrine Biosciences, Inc.	9/19/2017-8/27/2018	\$0.00	\$0.00
BiBotti Celestin Youan	Fastrack Technology for Pharmaceuticals	06/30/2016-05/31/2017	\$50,000.00	
TOTAL			\$3,835,238.76	\$1,497,313.00

School of Pharmacy Faculty Scholarly Activity.

Peer-Reviewed National and International Journal Research and Literature Review

Articles. The following are publications with a print date of 2017 including articles in peer-reviewed national and international journals, book chapters, and other scholarly work, such as viewpoints and brief research reports. School of Pharmacy faculty names are bolded.

University of Missouri – Kansas City, School of Pharmacy Number of Research Publications and Presentations by Department Fall 2017			
Division	Posters and Presentations	Research Manuscripts	Book Chapters
Pharmaceutical Sciences	4	7	2
Pharmacology and Toxicology	4	3	0
Pharmacy Practice and Administration	59	11	8
Total	67	21	10

Note: Some publications and posters are cross-divisional.

University of Missouri – Kansas City, School of Pharmacy Number of Original Research Articles by Year			
Division	2015	2016	2017
Pharmaceutical Sciences	15	13	7
Pharmacology and Toxicology	4	5	3
Pharmacy Practice and Administration	16	12	11
Total	35	30	21
Total Number of Faculty	56	58	61
Manuscripts per Faculty	0.625	0.517	0.344

Book Chapters in 2017.

Bryant PJ, McQueen CE. “Literature Evaluation II: Beyond the Basics.” In: Malone PM, et al, editors. *Drug Information: A Guide for Pharmacists*. 6th edition. New York: McGraw-Hill; December, 2017.

Gubbins PO, Lyons-Burney H. Point-of-Care Testing. In: Lee M. ed. Basic Skills in Interpreting Laboratory Data, Chapter 4, pgs 51-68, 6th ed. American Society of Health Systems Pharmacists, Bethesda MD 2017.

Johnston, Thomas, Korolenko TA, Bgatova NP. “Chapter 2: Statins and yeast polysaccharides in the treatment of hyperlipidemia and liver steatosis, role of autophagy.” *Advances in Medicine and Biology*, Vol. 110. Edited by Berhardt LV. Hauppauge, NY: Nova Science Publishers, Inc, 2017. 31-60.

Mitra AK, Cholkar K, Mandal A, (Editors) *Emerging Nanotechnologies for Diagnostics, Drug Delivery, and Medical Devices*, (15 Chapters) First Edition, Elsevier (Publisher) Cambridge, MA ISBN: 978-0-323-42978-8, (403 pages) Feb 2017.

Koehler P, Gubbins PO, Cornely OA. Fungal Infections. In Fink MP, Abraham E, Vincent JL, Kochanek P, Moore FA, Fink MP Eds. Textbook of Critical Care Section VI, Chapter 132, pgs.1050-60. 7th ed. Saunders, div Elsevier Publishers, Philadelphia PA. 2017.

Schneiderhan M, **Nelson LA,** Bauer S. e|Chapter 20. Evaluation of Psychiatric Disorders. In: Dipiro JT, ed. *Pharmacotherapy: A Pathophysiologic Approach*. 10th edition. New York: The McGraw-Hill Companies, Inc. 2017.

Nelson LA. Chapter 77. Schizophrenia. In: Schwinghammer TL, ed. *Pharmacotherapy Casebook: A Patient-Focused Approach*. 10th edition. New York: The McGraw-Hill Companies, Inc. 2017.

Sperry M, Pace H. *Drug Information and Contemporary Community Pharmacy Practice*. In: Malone PM, Malone M editors. *Drug Information: A Guide for Pharmacists*, Sixth Edition. New York, NY: McGraw Hill; 2017. (corresponding author)

Stoner SC, Ruehter VL. Chapter 63: Eating Disorders, *Pharmacotherapy: A Pathophysiologic Approach*, 10th Edition. Published 2017.

Stoner, SC. Binge-Eating Disorder: Developing a Treatment Plan for Binge-Eating Disorder When

First-Line Options Fail. Nelson LA, editor. Psychiatric Pharmacotherapy Case Series. Lincoln (NE): College of Psychiatric and Neurologic Pharmacists; 2017. 14 p. Available from: <https://cpnp.org/ed/case/2017/bed-3>.

Refereed Original Research Publications in 2017.

- Adibi JJ, Buckley JP, Lee MK, Williams PL, Just AC, Zhao Y, **Bhat HK**, and Whyatt RM. (2017) Maternal urinary phthalates and sex-specific placental mRNA levels in an urban birth cohort. *Environ. Health*, 16 (1):35. [PMID: 28381288; PMCID: PMC5382502] **(IF 3.5)**.
- Gaborcik J, **Cillessen L**, Ellis J, Rodis J. Evaluating Patient Interest in an Adherence-Focused Smartphone App to Improve HIV Care. *Inov Pharm*. 2017;8(1): Article 20. <http://pubs.lib.umn.edu/innovations/vol8/iss1/20>.
- Dayer LE, Shilling R, Van Valkenburg M, Martin BC, **Gubbins PO**, Hadden K, Heldenbrand S. Assessing the smartphone adherence app marketplace from the health professional and consumer vantage points. *JMIR Mhealth Uhealth* 2017;5(4):e45) doi:10.2196/mhealth.6582
- Morris G, **Hardinger K**, Tsapepas D, Tichy E. A comparison of histamine receptor antagonist versus proton pump inhibitor stress ulcer prophylaxis in kidney transplant recipients. *Prog Transplant* 2017; 27: 4-8.
- Mahmoud MO, Aboud HM, Hassan AH, Ali AA, **Johnston, Thomas**. Transdermal delivery of atorvastatin calcium from novel nanovesicular systems using polyethylene glycol fatty acid esters: ameliorated effect without liver toxicity in poloxamer 407-induced hyperlipidemic rats. *J. Cont. Rel*. 2017; 254: 10-22.
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Faculty Peer Reviewed Articles in 2017.

Bzowickyj AS, Stahnke AM. Hypersensitivity reactions to human insulin analogs in insulin-naïve patients: a systematic review. *Ther Adv Endocrinol Metab.* 2017 Dec. doi.org/10.1177/2042018817745484.

Gubbins PO, Adams A, Klepser ME, Jacobs DM, Percival K, Tallman G. Potential for Pharmacy-public health collaborations using pharmacy-based point of care testing services. *J Pub Health Manage Pract* 2017; 23:593-600 doi: 10.1097/PHH.0000000000000482.

Amsden JR, **Gubbins PO.** Pharmacogenomics of triazole antifungal agents: implications for safety, tolerability and efficacy. *Exp Opin Drug Metab Tox* 2017;13:1135-46. doi:10.1080/17425255.2017.1391213.

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Zabihi NA, Pirro M, **Johnston, Thomas,** Sahebkar A, “Is there a role for curcumin supplementation in the treatment of non-alcoholic fatty liver disease? The data suggest yes.” *Curr. Pharm. Des.* 2017; 23(7): 969-982.

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Acharya G, Hasan N, Yoo JW, and **Lee CH.** Hormone Therapy and Delivery Strategies against Cardiovascular Diseases. *Current Pharmaceutical Biotechnology*, 18 (4), 285-302 (2017).

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2017 Sep 11. doi: 10.2174/1872213X11666170913150146. [Epub ahead of print], PMID: 28901856.

Agrahari V, Agrahari V, **Mitra AK**. Inner ear targeted drug delivery: what does the future hold? *Ther Deliv*. 2017 Apr;8(4):179-184. doi: 10.4155/tde-2017-0001. No abstract available. PMID: 28222657

Mandal A, Bisht R, Rupenthal DI, **Mitra AK**., Polymeric micelles for ocular drug delivery: From structural frameworks to recent preclinical studies, *J Control Release* 2017 Jan 10. pii: S0168- 3659(17)30017-2. doi: 10.1016/j.jconrel.2017.01.012. [Epub ahead of print].

Patterson ME, Rosenfelt DJ. Justifying high drug prices within the context of value: Biologics versus generics. *Res Social Adm Pharm*. 2017 Feb 16. pii: S1551-7411(17)30095-5. doi: 10.1016/j.sapharm.2017.02.009. [Epub ahead of print] PubMed PMID: 28259587.

Palmer M, Quillen A, Chin K, et al. How to Treat Post-Traumatic Stress Disorder with Co-Morbid Cardiovascular Disease. *Curr Psychiatr*. 2017;16(8):38-42.

Salvatore D, Gruss J, Hollenkamp S, Voss J. (2017). Review: Development of Acute Kidney Injury with Concomitant Use of Vancomycin and Piperacillin-Tazobactam. *American Journal of Hospital Medicine*, 1. <http://doi.org/10.24150/ajhm/2017.018>

Sumner JD, Zinser B, **Smith AJ**. [corresponding author] Dual Antiplatelet Therapy Beyond One Year in Patients After Stent Placement: A Review. *J Pharm Pract*. 2017 Jan 1:897190017715560. doi: 10.1177/0897190017715560

Facutly Peer Reviewed Case Studies in 2017.

Patton AP, **Liu Y**, Hartwig DM, May JR, Moon J, **Stoner SC**, **Guthrie KD**. Community pharmacy transition of care services and rural hospital readmissions: a case study. *Journal of American Pharmacists Association*. 2017; 57(3):S252-8. (Practice experience)

Faculty Non-Peer Reviewed Publications in 2017.

McQueen CE. Herb–drug interactions: Caution patients when changing supplements. *Curr Psychiatry*. 2017;16(6):38-41. Invited Savvy Psychopharmacology column article.

Schauner SM, Beck J, McCoy A. Contraceptive Prescribing in Missouri and Beyond. *Missouri Pharmacist*. 91 (2). June 2017. 1.0 contact hour, 0.1 CEUs. Accredited by the Accreditation Council for Pharmacy Education (ACPE).

Faculty Presentations and Posters in 2017.

Barnes KN. Asthma Management Pharmacological Therapy. Asthma Educator Institute in Lees Summit, Missouri. June 2017.

- Barnes KN.** How to write an article for publication. Illinois Council of Health-System Pharmacists and Missouri Society of Health-System Pharmacists Joint Annual Meeting in Collinsville, Illinois. April 2017.
- Cillessen L.** PharmTalk: *A Pharmacy Led Collaboration to Increase Vaccination Rates on College Campuses*. APhA Annual Meeting, San Francisco, CA, March 2017.
- Cillessen L, Stoner S.** Assessing self-awareness and professionalism in a Doctor of Pharmacy curriculum. AACP Annual Meeting, Nashville, TN, July 2017.
- Cillessen L, Englin EF, Porter A, Taylor H.** Teamwork makes the dream work: developing collaborative experiential rotation activities. Presented at MSHP fall meeting in Kansas City, MO was presented on September 16, 2017.
- Cillessen LM, Gubbins PO, et al.** “#Bearthebandaid: A pharmacy led collaboration to increase influenza vaccination rates on college campuses.” APhA PharmTalk: Innovative Practices in Pharmacy-Based Immunizations at APhA 2017 Annual Meeting and Exposition. San Francisco, CA. March 2017.
- Englin EF, Taylor H.** Improving Transitions of Care through Pharmacist Involvement. Presented during APhA PharmTalk: Innovative Practices in Transitions of Care at the American Pharmacists Association Annual Meeting in San Francisco, CA on March 26, 2017.
- Englin EF, Taylor H, Gubbins PO** and Graves C. Developing a Five-Discipline Interprofessional Education Patient Simulation Using a High-Fidelity Mannequin at a Comprehensive University. Presented as encore October 2017 at the 2017 ACCP Annual Meeting, Phoenix, AZ. ([Abstract 100E] *Pharmacotherapy* 2017; 37:e152).
- Risner AL, **Gubbins PO** et al. “Integrating students in interprofessional and team-based care” PharmTalk: Innovative Practices in Integrating Students in Interprofessional and Team-Based Care at APhA 2017 Annual Meeting and Exposition. San Francisco, CA. March 2017.
- Albon S, **Gubbins PO**, Janke KK, McLaughlin J. American Association of Colleges of Pharmacy 2017 Fall Institute: Strengthening Educational Scholarship, Washington DC. November 13–15, 2017.
- Hampton JP.** Read my Lips: Managing Acute Angioedema. American Society of Health-System Pharmacists Midyear Clinical Meeting; Anaheim, CA. 2017.
- Knell M.** Pharmacology Part II. Invited Lecturer: University of Missouri Dental School National Board Dental Examination Part II Online Review Course. Nationally available course at <https://www.cewebinar.com/umkc/>. Kansas City, MO. June 2017.
- Abdalla F, Nookala A, **Kumar A.** and **Bhat HK.** Resveratrol Analog TIMBD Inhibits HIV1-gp120 Associated Inflammation in Human Astrocytes. *Society on NeuroImmune Pharmacology*, Philadelphia, PA, April 2017.
- Lee CH.** Treatment of Atherosclerosis: Strategies for Removal of Lipid-laden Macrophages. Invited Speaker. Gwangju Institute of Science Technology (GIST), South Korea, November 7, 2017.

- Yeruva T and **Lee CH**. Effects of Thermo-Sensitive Gel on Homogeneity of the Vaginal Microbiome, AAPS meeting, Nov 12-16, San Diego, 2017.
- Oh B, Lee Y, Choi HG, and **Lee CH**. Computational Analysis on Graphene Quantum Dot Images in Macrophage. 6th FIP Pharmaceutical Sciences World Congress, Stockholm, Sweden • 21-24 May 2017.
- Lindsey CC, Graham MR, Marken PA, Ruehter VL, Bzowyckyj AS**, Assessing Self-Awareness through Didactic, Experiential, and Co-Curricular Avenues, Presented at the American Association of Colleges of Pharmacy Annual Meeting, Nashville, TN, July 2017.
- Lindsey C**. “Generation Rx and Missouri Pharmacists.” Presented to medical and public health professionals at the Opioid Summit, Pleasant Valley, MO, November 9, 2017.
- Lindsey C**. “Immunization Certification.” Presented CE certificate conference on 11/4/2017 to pharmacist from MO, AZ, and GA.
- Tetuan C, **Liu Y, Stoner SC**, May J, Hartwig DM, **Guthrie K**. Community pharmacist-managed medication reconciliation program in transitions of care: a pilot study to assess program feasibility. Poster presentation of reports on projects in progress. American Pharmacists Association 2017 Meeting. San Francisco, CA. Mar 24-27, 2017.
- Keane R, Blom J, Cadwell C, **Liu Y, Kuehl P**. Identification of medication-related problems by community pharmacists in patients with chronic inflammatory diseases. Poster presentation of reports on projects in progress. American Pharmacists Association 2017 Meeting. San Francisco, CA. Mar 24-27, 2017.
- Lang SE, Nelson LA, **Liu Y**, Kriz CR, Iuppa C, Diefenderfer LA, Elliott ESR, **Sommi RW**. Factors Associated with 30-day Readmissions for Patients with a Schizophrenia Spectrum or other Psychotic Disorder Diagnosis after Discharge from an Acute Care Psychiatric Facility. Presented at the 2017 Annual Meeting of the College of Psychiatric and Neurologic Pharmacists. Phoenix, AZ. April 23-26, 2017.
- Liu Y**, Yang L, Wu J, Wen L. Factors impacting hospitalization expenditure of myocardial infarction patients in Beijing, China. Poster presentation of research. International Society for Pharmacoeconomics and Outcomes Research 22nd Annual International Meeting. Boston, MA. May 20-24, 2017.
- Keane R, Blom J, Cadwell C, **Liu Y, Kuehl P**. Identification of medication-related problems by community pharmacists in patients with chronic inflammatory diseases. Poster presentation of research. The 43rd Annual Midwest Pharmacy Residents Conference. Omaha, NE. May 10-12, 2017.
- Tetuan C, **Liu Y, Stoner SC**, May J, Hartwig DM, **Guthrie K**. Community pharmacist-managed medication reconciliation program in transitions of care: a pilot study to assess program feasibility. Poster presentation of research. The 43rd Annual Midwest Pharmacy Residents Conference. Omaha, NE. May 10-12, 2017.
- Liu Y**, Liu H, Chen N, Beppu M, Ganguli A, Mittal M. Effect of adalimumab initiation at a specialty pharmacy on adherence, persistence, and cost outcomes across autoimmune diseases.

Podium presentation of research. Academy of Managed Care Pharmacy (AMCP)'s Managed Care & Specialty Pharmacy Annual Meeting 2017. Denver, CO. Mar 27-30, 2017.

Note: It was one of the top three abstracts among over 450 abstract submissions, and only top three submissions were selected as podium presentations

Barton R, Davis C, **Lyons-Burney H, Taylor HM**. "Opioid Prevention through Creative Collaboration and Strategies"; presentation with colleagues at ACT Missouri Annual Prevention conference; Osage Beach, Missouri; November 28, 2017.

Lyons-Burney H. "Opioid Epidemic and Response"; Hollister Rotary; Hollister, Missouri; November 6, 2017 "Opioids: How did we get here?" and "Opioid Epidemic: Response in SW Missouri"; Southwest Missouri Probation and Parole Officers Annual Meeting; Springfield, Missouri; November 3, 2017.

Lyons-Burney H. "Opioid Epidemic and PDMP"; Taney County Commissioners meeting; Forsyth, Missouri; October 2, 2017.

Lyons-Burney H. "Opioid Epidemic and PDMP"; Taney County Health Department; Forsyth, Missouri; September 18, 2017.

Lyons-Burney H. "Opioids: How did we get here and how is healthcare responding"; Branson Healthcare Network; Branson, Missouri; August 10, 2017.

Lyons-Burney H. "Opioids: How did we get here?"; Hollister Chamber of Commerce Town Hall; Hollister, Missouri; August 2nd, 2017.

Lyons-Burney H. "Opioids: How did we get here?"; 3rd Annual Prevention Leadership Conference; Community Partnership of the Ozarks; Springfield, Missouri; March 28, 2017.

McClaskey DM. Preceptor Training for the New Standards 2016. CE program presented at Mercy Springfield, March, 2017.

McClaskey DM. Preceptor Training for the New Standards 2016. CE program presented at CoxHealth, January, 2017.

McClaskey DM. Gearing Up for the 2017 Missouri Legislative Session. CE program presented at UMKC Alumni Weekend, October 2017.

McClaskey DM. Decision 2017: On the Road to Residency. Keynote speaker for UMKC Student Society of Health System Pharmacists Residency Roundtable, October, 2016.

Burken JG, Holt CJ, **Melchert RB**, Eckelkamp E. University of Missouri System Leadership Development Program. Panel Discussion: Coaching and Mentoring in Academia. January 26, 2017.

Melchert RB. ProCE-PharMEDium Continuing Education Webinar. Introduction to Pharmacogenomics. March 10, 2017.

- Bhattacharya C, Dey AS, **Mukherji M**. Substrate specificity of TET2 5-methylcytosine oxygenase, 35th Midwest Enzyme Chemistry Conference (MECC), Loyola University, Chicago, IL, 2017.
- Burk BG, Iuppa C, **Nelson LA**, Diefenderfer LA, Elliott ESR, **Sommi RW**, Kriz CR, Dellenbaugh T. Testing of CYP2D6 genotype – A retrospective review of the impact on psychotropic prescribing in a state psychiatric facility. Presented at the 2017 Annual Meeting of the College of Psychiatric and Neurologic Pharmacists, Phoenix, Arizona, April 2017.
- Lang SE, **Nelson LA**, Liu Y, Kriz CR, Iuppa C, Diefenderfer LA, Elliott ESR, **Sommi RW**. Factors Associated with 30-Day Readmissions for Patients with a Schizophrenia Spectrum or Other Psychotic Disorder Diagnosis After Discharge from an Acute Care Psychiatric Facility. Presented at the 2017 Annual Meeting of the College of Psychiatric and Neurologic Pharmacists, Phoenix, Arizona, April 2017.
- Modesitt T, **Palmer M**, Kapuganti A, Thomas C. Implementation of Pharmacist-Run Prazosin Titration Clinic in the VA Health System. Poster presented at: College of Psychiatric and Neurologic Pharmacists (CPNP) 2017 Annual Meeting; April 2017; Phoenix, Arizona.
- Patterson ME**, Bollinger S, Foust J, Coleman C, Nguyen D. Workflow impact on medication errors during care transitions between rural facilities. American College of Clinical Pharmacy (ACCP) Annual Meeting. Phoenix, AZ. October 2017.
- Patterson ME**, Bollinger S, Foust J, Coleman C, Nguyen D. Workflow impact on medication errors during care transitions between rural facilities. American Association of Colleges of Pharmacy (AACP) Annual Meeting. Nashville, TN. July 2017.
- Patterson ME**, Bollinger S, Foust J, Coleman C, Nguyen D. Inconsistent Communication Workflows Associated with Delays in Resolving Medication Errors during Transitions of Care within Rural Long- Term Care Facilities. Academy Health Annual Research Meeting (ARM). New Orleans, LA. June 2017
- Sedgwick CS, Spoutz PM, Schaefer MG, Pharm.D, Pandya PK, **Patterson ME**. The Association Between Acid Reduction Therapy (ART) and 12 Week Sustained Viral Response (SVR) in Patients with Hepatitis C Treated with Ledipasvir/Sofosbuvir. Midwest Pharmacy Residents Conference. Omaha, NE. May 2017.
- Sawkin MT**. HIV Pre-Exposure Prophylaxis (PrEP) in an Urban Community Health Center. TED-like oral presentation for APhA PharmTalk: Innovative Practices in Collaborating with Members of the Health Care Team Session. American Pharmacists Association Annual Meeting; San Francisco, CA, March 2017.
- Smith A**. Dual Antiplatelet Therapy: What is the optimal duration? (CE approved) ICHP/MSHP. Spring Meeting, Collinsville, IL. March 2017.
- Richter SK, Nguyen T, **Smith AJ**, Yunker NS. American College of Clinical Pharmacy Student Chapters Survey: 2017 Update. ACCP Annual Meeting, Phoenix, AZ. October 2017
- Harry KM, Marszalek JM, Eways KR, Clark JMR, **Smith AJ**, Wilson EJ, Bennett KK. Validation of the Cardiac Self-Blame Attributions (CSBA) Scale and its Relationship to Cardiac Rehabilitation

Outcomes Among Underrepresented Patients with Cardiovascular Disease. Association for Psychological Science Annual Meeting, Boston, MA. May 2017.

Burk BG, Iuppa C, Nelson LA, Diefenderfer LA, Elliott ESR, **Sommi RW**. Pharmacogenomic Testing of CYP2D6 Metabolic Capacity – A Retrospective Review of the Impact on Psychotropic Prescribing in a State Psychiatric Facility. Presented at the 2017 Annual Meeting of the College of Psychiatric and Neurologic Pharmacists. Phoenix, AZ. April 23-26, 2017.

Sommi RW, Hard ML, Wehr A, Weiden PJ, von Moltke L. Safety and Pharmacokinetic Profile of a 2-Month Dose Regimen of Aripiprazole Lauroxil: Phase 1 Study and Population Pharmacokinetic Modeling. Presented at the Midyear Clinical Meeting, American Society of Health-System Pharmacists, Orlando, Florida, December 2017.

Sommi RW. Advances in Prevention and Treatment of Tardive Dyskinesia. Presented at the KCCNS Behavioral Neuroscience Symposium on Overland Park, Kansas, August, 2017.

Sommi RW. Role of the Psychiatric Pharmacist in Assessment and Management of TD. Presented at the Symposium - The Changing Face of Tardive Dyskinesia – an Update for Psychiatric and Neurologic Pharmacists, conducted at the Annual Meeting of the College of Psychiatric and Neurologic Pharmacists, Phoenix, Arizona, April 2017.

Sommi RW. Becoming the Best Mentor You Can Be. Roundtable discussion facilitator for the Assistant/Associate Deans Networking Session. Interim Meeting, American Association of Colleges of Pharmacy, Plaza Del Mar, Puerto Rico, February, 2017.

Boatwright K, **Sperry M**, **Bryant P**, **Pace H**. Evidence behind medical claims made by commonly used Web sites regarding the use of marijuana and cannabidiol. ASHP Midyear Meeting; Orlando, FL, December 2017.

Stahnke A, Morris K. Multiple Sclerosis Update, Illinois Pharmacist Association and Missouri Pharmacy Association Annual Meeting, St. Louis, Missouri.

Awan S, **Stahnke A**. Frequent gout exacerbations after administration of cyanocobalamin injections in a patient with chronic gout. American Society of Health-System Pharmacists Mid-Year Clinical Meeting, Orlando, Florida. 6-120.

Kerr JL, **Stahnke A**, Isaacs D. Professional CGM Use Among Healthcare Professionals in the AADE COIs. American Association of Diabetes Educators, Indianapolis, Indiana. P84.

Stoner SC, **Ruehter VL**, **Graham MR**. Strengths Finder Themes in Pharmacy Students Completing an Academic Administrative Rotation, Presented at the American Association of Colleges of Pharmacy Annual Meeting, Nashville, TN, July 2017.

Tamer D. “Fertility and Cancer.” Formal in-service presentation to inpatient hematology-oncology medical staff, Maine Medical Center, Portland, Maine. February 2017

Tamer D. “Pembrolizumab versus Chemotherapy for PD-L1 Positive Non-Small-Cell Lung Cancer.” Formal journal club webinar presentation to preceptor, pharmacists, and co-residents, Maine Medical Center, Portland, Maine. January 2017.

Tamer D. Hematology Oncology Pharmacy Association (HOPA) Resident Poster Presentation
“Evaluation of High Dose Methotrexate (HDMTX) Induced Toxicities in Oncology Patients at
Maine Medical Center: A Pilot Study” HOPA Annual Conference Meeting, Anaheim, California.
March 2017.

Taylor H, Englin EF, Gubbins PO and Graves C. Developing a Five-Discipline Interprofessional
Education Patient Simulation Using a High-Fidelity Mannequin at a Comprehensive University.
Presented July 2017 at the 2017 AACP Annual Meeting, Nashville, TN. ([Abstract *Am J Pharm*
Ed 2017;81 (5) Article S5. 103]).

Taylor HM, Cillessen L, Reed J, Aunmiller A, **Gubbins PO**. Motivating undergraduate students to
receive the influenza vaccine at a collaborating university utilizing gain-framed messaging.
Presented July 2017 at the 2017 AACP Annual Meeting, Nashville, TN ([Abstract] *Am J Pharm Ed*
2017; 81: Article S5 (pp104)).

Wang J. "Cerebral IFN-alpha, leptin expression and adipose tissue reduction". Division of
Pharmacology and Toxicology, UMKC School of Pharmacy, November 21st, 2017; Kansas City,
Missouri.

Faculty Media Appearances/Interviews.

Lindsey C. “Prescription Drug Predicament.” Interviewed by Fox 4 and posted on May 15, 2017.
Located at <http://fox4kc.com/2017/05/15/fox-4-investigation-finds-not-all-pharmacies-created-equal-savings-can-be-closer-than-you-think/>

Editorial Boards for 2017.

Bhat, Hari.

- Annals of Pharmacology and Pharmaceutics
- Integrative Journal of Cancer Biology and Research
- Journal of Medical Hypothesis and Research
- Journal of Biochemical and Molecular Toxicology
- Advances in Medicine
- Journal of Pharmacology and Clinical Toxicology

Bzowyckj, Andrew.

- Currents in Pharmacy Teaching and Learning

Cheng, Kun.

- World Journal of Clinical Oncology (associate editor)
- BioMed Research International
- UK Journal of Pharmaceutical and Biosciences
- Journal of NanoMedicine and Applications
- International Scholarly Research Notices
- Liver Research
- BioMed Research International
- Open Pharmaceutical Sciences

Gubbins, Paul.

- Current Medical Research and Opinion (international advisory board)
- Antimicrobial Agents and Chemotherapy
- Pharmacology and Pharmacodynamics of Antifungal Agents, Current Fungal Infection Reports (section editor)
- Current Fungal Infection Reports (associate editor)
- International Journal Pharmacokinetics

Gutheil, William.

- UK Journal of Pharmaceutical Sciences
- Symbiosis Open Journal of Pharmacy and Pharmaceutical Sciences

Hardinger, Karen.

- Conference Papers in Medicine
- Dataset Papers in Medicine
- World Journal of Transplantation

Igwe, Orisa.

- SOJ Anesthesiology and Pain Management
- SOJ Pharmacy and Pharmaceutical Sciences
- UK Journal of Pharmaceutical and Biosciences
- Journal of Biotechnology and Cell Biology
- Journal of Toxicology

Johnston, Thomas.

- Journal of Pharmacy and Pharmacology
- Journal of Ocular Biology, Diseases, and Informatics
- Annals of Pharmacology and Pharmaceutics

Kuehl, Peggy.

- Research in Social and Administrative Pharmacy

Kumar, Anil.

- Journal of Neurovirology
- Journal of Neuroimmune Pharmacology
- Journal of Neuroinflammation
- Scientific Reports
- PLOSone

Lee, Chi.

- Journal ‘ImmunoTargets and Therapy’ (Honorary Editorial Board)
- Journal of Stem Cell Research & Regenerative Medicine
- Journal of Biomedical Engineering and Informatics (JBEL)
- Henry Journal of Nanoscience, Nanomedicine & Nanobiology
- Journal of Pharmaceutical Analytics & Insights
- World Journal of Methodology
- Journal of Nanoparticle & Nanotechnology

Liu, Yifei.

- Research in Social and Administrative Pharmacy
- Advances in Therapy
- Journal of the American Pharmacists Association (editorial advisory board member)
- Dermatology and Therapy (advisory board member)

Melchert, Russell.

- Toxicology In Vitro
- Cardiovascular Toxicology
- Regenerative Medicine Research

Mitra, Ashim.

- Current Updates in Stem Cell Research and Therapy
- Open Access Journal of Pharmaceutical Research
- American Journal of Drug Delivery and Therapeutics
- Pharmaceutical Analytical Chemistry
- Editorial Panel member for EC Ophthalmology
- Journal of Materials & Applied Science
- Annals of Carcinogenesis - Austin Publishing Group
- Journal of Pharmacokinetics and Experimental Therapeutics
- Journal of Drug Delivery Science and Technology
- Pharmaceutical Research
- Expert Opinion on Drug Delivery (Informa Healthcare, UK Limited)
- Recent Patents in Drug Delivery and Formulation
- Journal of Ocular Pharmacology and Therapeutics
- International Journal of Pharmaceutics
- The AAPS Journal
- Current Eye Research

Mukherji, Mridul.

- Dataset Papers in Science, Biochemistry Section, Hindawi Publishing Corporation
- Asian Journal of Pharmacology and Toxicology, Literati Publishers
- Journal of Biotechnology and Cell Biology, Imprints

Pal, Dhananjay.

- Applied Clinical Pharmacology and Toxicology and EC Ophthalmology

Wang, Jianping.

- Neuroscience Journal
- World Journal of Psychiatry
- Journal of Applied Clinical Pharmacology and Toxicology